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ABSTRACT

This document reports the findings of four task forces involved in the first phase of master planning for the Peralta Community College District. Task Force I concerned itself with population, revenue, and enrollment trends. Peralta has had financial difficulty because of inflation and a general decline in assessed valuation per ADA. After the initial period of growth (1968-1973), enrollment increases have leveled off. The Task Force suggests the implementation of educational strategies designed to maximize opportunity while maintaining educational excellence and increasing cost effectiveness. Towards that end, Task Force III sought to identify and develop contacts with groups that might benefit from current programs but are not availing themselves of the opportunity, and groups that have traditionally been excluded from consideration in curriculum development (i.e., military, women, hospitals, penal institutions, and the middle class). Task Force IV reported on the projected manpower needs of the district and the colleges' role in fulfilling those needs. Task Force V studied various innovative and alternative educational delivery systems used by other districts and ranked them on the basis of their cost, versatility, and "perturbation" factors. Since computer assisted instruction was highest ranked, the current use of computers at Peralta is assessed in the appendix. (MJK)

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REPORT

PHASE I: INFORMATION

EDUCATIONAL SERVICES MASTER PLAN PROJECT

JANUARY 1975

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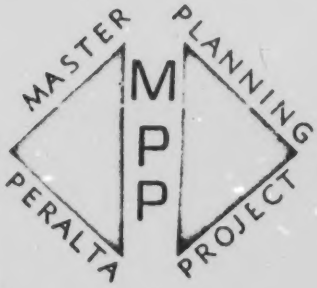
EDUCATIONAL SERVICES



ALTERNATIVES FOR THE FUTURE

An Introduction

Suzanne Adams

Chairwoman, ESMPP

January 1975

Between the covers of this report on the information-gathering activities of this fall are the reports of four teams, and the invited commentary on management information systems prepared by Wilson Price. An oral report of this material was made to the Board of Trustees on November 18, 1974; the difference between that date and this is the story of the struggles of two research team chairpersons to bring together in written form the findings of their committees.

Absent from this report is much basic information about the district and its institutional capabilities. Simple descriptive material of programs offered and services available appears in the catalogues of the colleges. To give a more detailed, organized and comprehensive description requires access to information which does not yet exist, and the labor of subcommittees which has not been completed. Departments and divisions will soon be responding to a survey instrument to arrive at some of this information; individual faculty, both full- and part-time, will be responding to another survey to provide a picture of the talents, tapped and untapped, of the teaching staff. Dr. Godbold has organized a schematic mode of representing systems efficiency, to which about half of the participants have responded. A facilities utilization study awaits its turn on the computer. Dr. Peter Selo of Laney is working with Scott Baldwin and the Data Processing staff to produce profiles of both our student body and the population of the district as a whole. John Greene of COA is working with a committee to produce a report of the student personnel

services of the district colleges, and the variations in organization and delivery that characterize the several colleges. In view of the number of important studies still underway, existing parts of the District Capabilities chapter are being held back until the complete chapter can be assembled.

Aside from the people engaged in the District study, there are a number of individuals whose labors helped to produce what is here although their names are not on a committee roster. The project has benefitted greatly from the advice and encouragement of David Johnson, a citizen volunteer whose profession is institutional study and planning. He has helped to shape the studies still underway in the District, and continues to be available for consultation as we move into the planning phase. Glenn Vannoy of the District Office has been informant and problem-identifier to the chairwoman in a more or less continuous fashion this fall. Roger Ferragallo designed the letterhead for the project, and Jack Mooradian produced the memo paper. Miyo Sushido of Merritt produced half this report and a number of briefer communications of one sort and another, usually under intense time pressure. Ted Kraus and his department have produced the other half of the report and its cover. Bill Dowling has marshalled books and a variety of supplies with the speed of lightning. And the number of people in the central office who have located information and talent, and generally threaded mazes for which faculty are ill-equiped, is large: Norma Staggs, Maryann Francis, Grace Chatfield, Peggy Allshouse, and Dorothy Carter.

As you read the information gathered, there are certain national trends useful to keep in mind. Some of these are referred to within relevant chapters, but some I would like to discuss briefly here:

The "New Learners"

In Beyond the Open Door (1971), K. Patricia Cross reports the results of a nationwide study of the educational needs and desires of American adults. About two-thirds of all adults have such needs or desires. They wish access to learning experiences of both vocational and personal sorts, and a significant number of these are in fact engaged in some such endeavors. These have been called the "new learners." We have seen them in Peralta classes for years, and some of you will have noticed that their numbers are increasing, in day as well as night classes. Elaine Lockley's research team on Emerging Groups (white section of this report) describe six such groups, but have identified many more. The advantage of thinking of sub-groups consists of locating people with shared needs or desires; in the end, we all recognize that what is needed is an array of offerings in a variety of modes and packages that permit any individual person to find the options best suited to his purposes.

The new learners do have new claims to make upon the community college: they need time- and space-free ways of fulfilling their purposes, and they often want content organized in the dimensions of living rather than academic disciplines. Their lives put other demands upon them so that the two-semester or

three-quarter year is not a natural way to divide time. If they need an occupational skill, or the upgrading of present skills, they need this training in shorter, more intensive modules. In any curriculum, many may prefer to work at material independently, seeking guidance from an instructor at irregular times in contrast to fixed presentation times each week. If they are working, they respond to offerings before or after work, either in the work setting or between work and home. These all suggest modifications in the way traditional colleges do things, and our capacity to serve community adults depends upon our willingness to devise new delivery systems. Of particular significance is the need to have an open entry, open exit option in most curricular areas; this obviously also means a new flexibility in registration and enrollment procedures. Recent legislation, permitting courses of any length at any time, has opened the door for this development.

Institutional Problems

Across the nation educational institutions, both public and private, suffer from similar institutional disabilities; exceptions to this generalization are rare. The management information systems of most are archaic -- and Peralta is better off than many! This affects every aspect of institutional life and decision-making, and always adversely. How do you reduce waste, phase out services no longer needed, reorganize teaching or support service teams to do a better job, choose directions for development -- how do you do any of these things when it is unclear what is inefficient, ineffective

or unnecessary? Further, since developing any new capabilities takes more energy and resources than continuing them will, how do you find the resources when you cannot reduce any part of existing operations?

Several of the reports from the Carnegie Commission are devoted to aspects of the challenge to higher education by the new educational technologies. Each such report contains recommendations that start with institutional re-organization. Fortunately, Peralta as a district has begun the task in the information realm, and shifts are occurring in administrative structures as well. But the final re-organizations that will be most significant to students, new and old learners, will occur at the point of contact with instructors: how and where and when they can engage with what faculty have to offer.

Financing Higher Education

No one is unaware of the strains nearly every educational institution shows in the financial realm. John Holleman's team report (green pages) shows the picture for Peralta. In October 1974, The Chronicle of Higher Education published some comparisons among states; in Dec-Jan 1975, the California Academic Review reprinted it, and that page is reproduced here for your perusal. Note bene: California spends less per student, and shows 'less effort' per $1000 of average personal income than many states -- including those conventionally viewed as disinterested in education. Further, those of us in community colleges know that we are carrying the bulk of the load in numbers of students, at less than half the per-head cost allotted

What the Legislature Should be Looking at

As Mr. Reagan leaves office, another critical question in higher education besides collective bargaining is overdue for a look-see in Sacramento. The Reagan regime may not have destroyed UC's pre-eminence, as the outgoing governor asserts it has not. But the past 8 years have seen a pronounced relative thinning-out of state investment in California higher education.

Such is suggested at least by the most recent, and best available, if imperfect comparative figures on State support of higher education.

Although California still has the largest higher education budget, it is now very far from being a "leader" in terms of **per student** investment or "level of effort" relative to the State's wealth.

As Table A indicates, California is not in the top half-dozen or so, where one might expect it to be, in moneys behind each student. In fact, it's not in the top quarter or even the top half of the nation's States. **At $2204 per student, it's a most unimpressive 30th, right behind Missouri.**

But perhaps that's because California is, in good democratic fashion, trying very hard to educate so many. Table B suggests that the State's "level of effort" is hardly anything to write back home about. Table B "corrects" for the different degrees of affluence between the States—displaying the leaders in terms of State higher education expenditures per $1000 of average personal income. **California comes in 18th.**

Even less impressive is California's rank-order with respect to deepening of investment in higher education over the past decade. **California is 33rd in the country.**

Perhaps we are spreading our higher education effort too thin. The legislature and the new Governor ought to examine to possible futures: (1) upping the investment to a point commensurate with "leadership" while keeping the "broad-base" of the higher education enterprise; or (2), if that would constitute too serious a commitment to higher education, doing a better job with fewer.

The first course is obviously preferable. And it is hard to believe that if South Carolina can afford $3409 per student, North Carolina $3025, and even Idaho $2631, we can't.

Legislators have been known to complain that professors don't do a good enough job with their students. Perhaps the answer lies in substantial part on Sacramento's doorstep—"you gets what you pays for." Possibly with a little effort we could get our investments per student ahead of Mississippi's.

(*Figures are taken from Oct. 21, 1974 issue of The Chronicle of Higher Education, pp. 8-9.)

TABLE A
APPROPRIATIONS PER STUDENT, 1974-75
Top Ten States & Mississippi & California

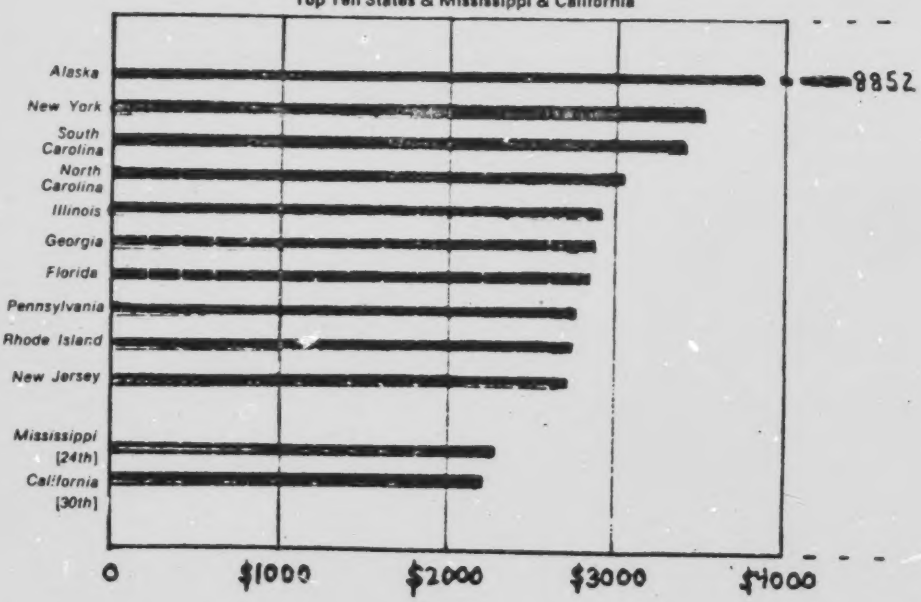
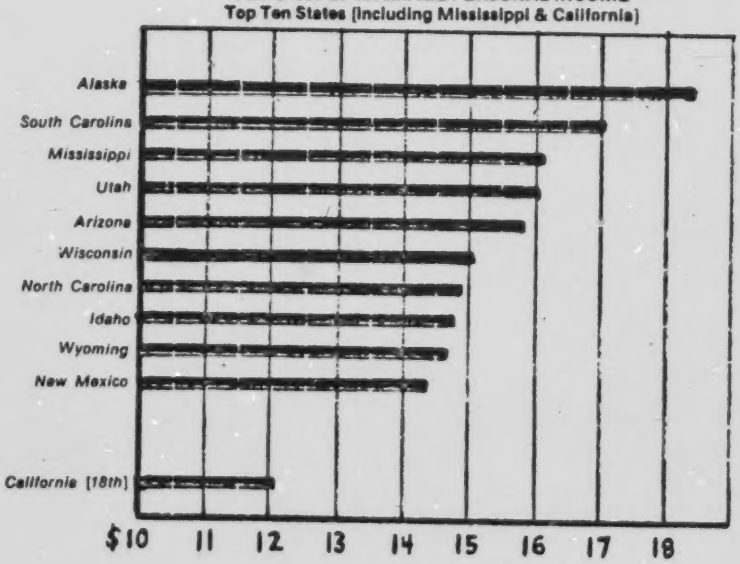


TABLE B
"LEVEL OF EFFORT"-APPROPRIATIONS
PER $1000 OF AVERAGE PERSONAL INCOME
Top Ten States (including Mississippi & California)



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state college students, and less than one-third that devoted to university students. Thus the average $2250 suggested here is not the amount supporting our students.

A number of periodicals recently, including the publications of CTA and CFT, point up the effectivenss of teachers in electing a legislature favorably disposed to collective bargaining. The question arises: if teachers can do that, what prevents them from finding legislators who will increase the state's level of effort to provide higher educational services to the population? In Florida, the state adds 3% to each institution's budget for use in developing new capabilities. Where was California when this bright idea surfaced?

While Federal and state monies in general appear likely to decrease -- if current trends continue,-- these funding sources, as well as private foundations, show new readiness to provide money for the development of techniques that will provide more diverse and effective options for learners. Some monies are even available for general institutional changes, particularly in the creation of management information systems and the encouragement of staff development. The District will seek those sources of support so soon as planning directions are clarified, and indeed has begun to do so. In each of the colleges similar efforts have been made by some staff members, but most of us know little of this. A promised section of the District chapter is a summary of such grants obtained over the last four years.

Effects of Vocational Education

A number of newspapers in the last few weeks have carried reports of a national study that purports to show that the national investment in vocational education is relatively ineffective. It contends that a large proportion of students never enter the field in which they received training, or fail to take jobs at the level for which they are supposedly trained. Whether or not this is equally true of Peralta graduates remains to be discovered. The College of Alameda, as a result of the work of Linda Medsker, is about to conduct a follow-up study of its graduates. At the District level, Glenn Vannoy is working with Data Processing staff to utilize a state-developed follow-up procedure called S.A.M. (Student Accounting Model). By next fall, then, we should begin to have such information.

We need to know more than simply whether or not students find jobs in the areas of their training. We need to know how they, and their supervisors, judge the adequacy of that training, and what additions or modifications the current work-settings of each occupation make desirable. We need to develop a method to foresee manpower demands two-five years in the future, since a student beginning now will not be ready to work for several years. We need better ways of making career information available to students early in their time in college, and a wide network of contacts with employers to facilitate placement when they are job-ready. In the last respect, college vocational instructors might look at the methods used by their counterparts at East Bay Skill Center.

However, we have other things to look at that ought to be mentioned here. Future needs of this area for highly differentiated and flexible programs are already being sought by some employers: such requests, probably the tip of an iceberg, indicate that employers do not wish to lose good employees as a result of changes in skills demanded or internal reorganization. Thus they turn to us to provide retraining and upgrading of very specific sorts. National manpower projections for some time have stressed the fact that rapidly changing technology and attendant internal reorganizations make it likely that most workers will be trained and retrained a number of times during their careers.

To fulfill this economic need of our community will require something beyond skeletal staffing in vocational areas. We ought to look at the District commitment to vocational education in terms of the proportion of staffing dollars that supports it. We are likely to find that some programs, high in demand for initial and later training components, are minimally staffed with permanent staff. As any member of a small department can readily attest, development of useful innovations in understaffed departments are usually impossible.

Finally, the non-occupational staff ought to recognize that everyone finds it much easier to talk about learning effectiveness in occupational areas since there appears to be a 'natural' criterion for judging the results of teaching. One of the most discouraging thing in educational research today is our continuing failure to devise methods of measuring the effects

of teaching that satisfy anyone. We criticize --usually justifiably -- the objectivity of many measures, or the relevance of criteria to the 'significant' aspects of material being taught. CAI has sparked enthusiasm in some quarters because it appears to by-pass the criterion problem: if you can reduce the subject taught to a set of steps, each linked with the last, then 'errors' anywhere along the process are detectable and correctible, and when a student finishes a sequence he has by definition 'mastered' the material. The use of behavioral objectives to indicate what the student will be able to do as a result of study has a similar appeal, though many instructors find the development of such a set of objectives difficult unless the objectives are trivial.

At any rate, the point of this diversion is simply to indicate that the criticism leveled at vocational education is no different than that leveled at all education by a society that periodically feels acutely disappointed in the effects of its large investment in education. We have no reason to assume that what we have always done is 'effective;' we have never arrived at a way to demonstrate that assertion. Thus we have no reason, really, to shirk innovation, or to fail to persist in the search for meaningful measurement of learning effectiveness.

Implications of the Information Gathered

This part rightly belongs in an epilogue; however, the job for those assembling the report will be simpler if it occurs here. Each person reading the team reports is likely to see specific implications for his/her work. The general implications relevant to all of us appear to be these:

1. Whatever we do, both our traditional services and the new ones we develop must reach a new level of cost-efficiency. Purchasing power is declining, and significant increases in income are unlikely.

2. If two-thirds of the adult population want educational services, then the Peralta Colleges are currently serving about 13.3% of those whom they might serve. Thus carefully planned programs, resulting from consultation with any number of 'target groups' in the community, are likely to increase our net service to the community.

3. Our biggest tactical problem in reaching those who are potentially interested is to decentralize delivery of educational services. This is likely to involve significant investment in educational technologies: Computer Assisted Instruction, TV, and Educational Telephone Network, as well as the modularization of course offerings.

4. We have very important corrections to make in our methods of handling occupational training, particularly in providing for the flow of information to students and instructors that will keep training content and methods pertinent to job conditions.

In making these changes, we need to avoid competition among colleges for populations and for resources, and we also need to minimize duplication of staff efforts in the development of both new delivery systems and new programs. The spring planning activities have been designed to provide for campus-based planning, since our most effective work occurs with daily associates. To minimize duplication, the ESMPP chairperson will keep project teams informed of similar projects elsewhere, and arrange liaisons to promote compatible plans on more than one campus. Once any new delivery system is operational, it should become available to all faculty in the district who wish to use it. Those who design and develop at this point will not only implement changes but also become resource people to those who wish to utilize them.

It is my belief, from a variety of contacts in each college this fall, that the capacity to make necessary changes exists in the current faculty and staff. The interest is there, as well. Our principal problem lies in developing and directing resources to enable those who will to implement changes. To do that is now a district commitment.

A short, highly selective bibliography follows to indicate recent publications, orienting educators to present realities, which have something to do with the content of this introduction.

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Benson, Charles S. & Hodgkinson, Harold: Implementing the Learning Society. 1974. Jossey Bass: San Francisco.

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Carnegie Commission on Higher Education: several

1. Digest of Reports of the Carnegie Commission on Higher Education (1974)
2. A Chance to Learn (1970)
3. Less Time, More Options (1971)
4. New Students and New Places (1971)
5. The Fourth Revolution: Instructional Technology in Higher Education (1972)
6. The More Effective Use of Resources (1972)
7. Toward a Learning Society (1973)

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EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

TASK FORCE ONE: POPULATION, REVENUE AND ENROLLMENT TRENDS

Prepared by:

John J. Holleman, Chairman
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Joseph Brennan	Feather River College
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Donald Dye	Merritt College
Edward Larson	College of Alameda
Charles Peterson	Feather River College

The charge to the task force committee was to investigate the population, enrollment projections and revenue trends for the Peralta Community College District. The information developed from our investigation has been assembled into two major divisions; one, analysis of funding and two, population and enrollment trends within the Peralta Community College District.

Higher education in the United States is in a period of shrinkage with the number of students declining and costs accelerating. In order to meet the problems of the future, educational institutions must plan ahead for a period of reduced enrollment and a period of higher costs. Peralta Community College District is no different than other segments of higher education in the United States in that we find sources of income are declining, costs increasing, and an enrollment which appears to be leveling off. These factors require the Peralta Community District to initiate a more detailed study of projections for future funding and enrollments than could be undertaken by the task force.

The task force committee was limited in its ability to obtain data from the Data Processing Center because the center was not capable of providing the information required by the committee. However the information and data collected by the task force committee does provide a basis for projecting trends in enrollment and district funding.

I. Analysis of Peralta Community College Funding

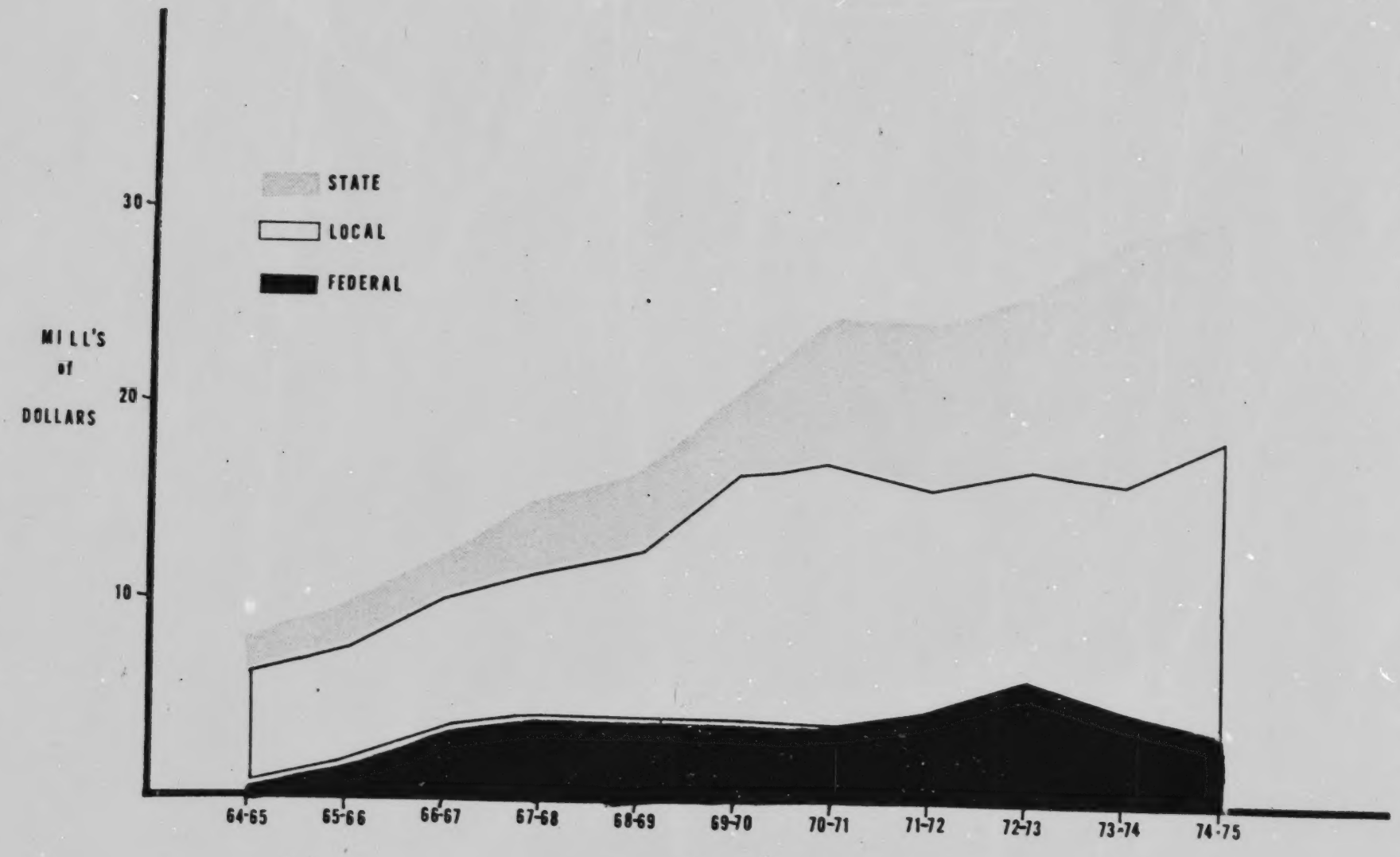
General Fund Income

The general fund income for the Peralta Community College District for the years 1964-1965 to 1975 is represented in Figure 1 and Chart 1. From it can be seen that the local community provides the major support for the district, from a high of 79% in 1964-1965 to a low of 44% in 1972-1973. The state proportion of the total general fund income has increased from 16% in 1964-1965 to 37% in 1974-1975, with a high of 42.5% in 1973-1974. The general fund income from the state of California is based on ADA (average daily attendance), while the local share of the general fund income is derived from local taxes. The second chart and graph show that the assessed valuation of the Peralta Community College District has risen from a low of $1,057,332,210 in 1964-1965 to a high of $1,992,217,101 in 1974-1975 During the same period of time, the tax rate per $100 assessed valuation has increased from 48¢ per $100 assessed valuation in 1964-1965 to a high of 97.7¢ in 1974-1975 (see Chart 2 and Figure 3.) From the data it can be observed that instead of the state assuming a larger percentage and share of the cost of community college education in the Peralta District, local taxation is increasing to meet increased cost. Graph 1 shows that the federal proportion of the general fund has been declining and, if a trend of future funding based on the graph is projected, the federal proportion of the general fund will continue to decline with the result that other proportions of support will have to increase.

SOURCE OF GENERAL FUND INCOME BY YEAR

YEAR	FEDERAL	STATE	LOCAL	TOTAL
1964-1965	$ 318,772	$ 1,290,770	$ 6,085,738	$ 7,695,289
1965-1966	1,473,870	1,797,264	6,427,861	9,698,995
1966-1967	3,117,717	1,851,587	7,246,409	12,215,713
1967-1968	3,818,364	3,164,653	8,087,028	15,079,045
1968-1969	3,815,202	3,312,520	9,059,248	16,421,220
1969-1970	3,800,086	4,248,171	12,936,419	20,984,676
1970-1971	3,522,408	7,084,072	13,962,233	24,568,713
1971-1972	4,230,028	8,233,759	11,965,510	24,429,297
1972-1973	5,913,160	8,546,765	11,370,002	25,829,927
1973-1974	4,303,000	12,324,000	12,292,000	28,919,000
1974-1975	3,466,076	10,972,000	15,264,719	29,702,795

Chart 1



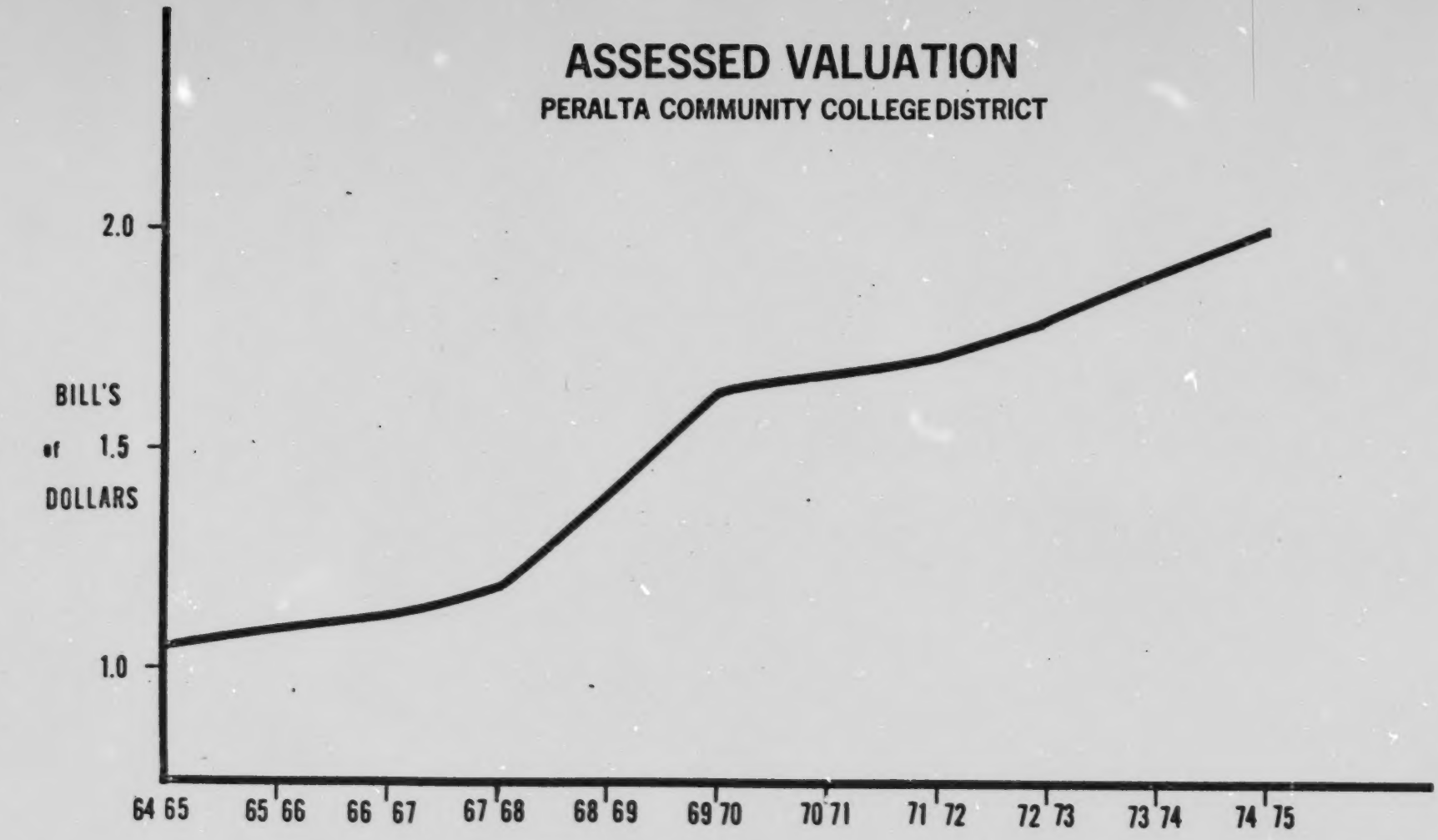
GENERAL FUND INCOME BY YEAR

Figure 1

PERALTA COMMUNITY COLLEGE DISTRICT
ASSESSED VALUATION AND TAX RATE

YEAR	ASSESSED VALUATION	TAX RATE PER $100 ASSESSED VALUATION
1964-1965	$ 1,057,332,210	$0.48
1965-1966	1,092,291,334	0.523
1966-1967	1,118,143,727	0.675
1967-1968	1,179,064,286	0.693
1968-1969	1,381,073,425	0.734
1969-1970	1,641,386,293	0.883
1970-1971	1,664,684,689	0.924
1971-1972	1,710,088,626	0.820
1972-1973	1,788,489,709	0.903
1973-1974	1,907,444,716	0.886
1974-1975	1,992,217,010	0.977

Chart 2


ASSESSED VALUATION
PERALTA COMMUNITY COLLEGE DISTRICT
2.0
BILL'S
of 1.5
DOLLARS
1.0
64 65
65 66
66 67
67 68
68 69
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73 74
74 75

Figure 2

TAX RATE PER $100

PERALTA COMMUNITY COLLEGE DISTRICT

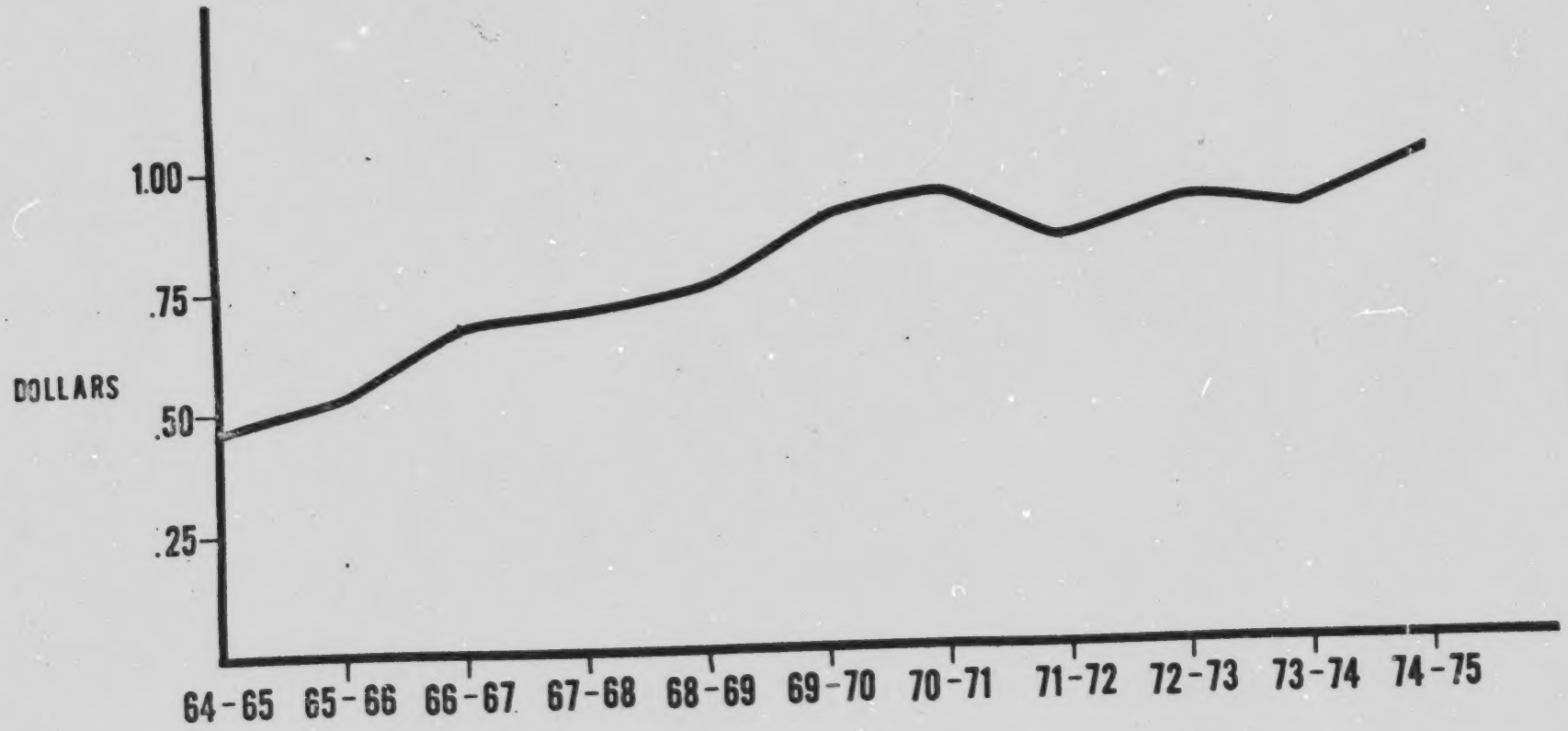


Figure 3

The budget for the Peralta Community College District has gone up two and one-half times since 1967; however, the increase in real dollars has actually been an increase of 1.5 times. What has happened is that inflation has reduced the purchasing power of the Peralta Community College District. We find that in 1967 the consumer price index was $1 while in 1974-1975 $1.48 is required to purchase the same items that were purchased in 1967 for one dollar (see Chart 3 and Figure 4). Thus the Peralta Community College has lost a large part of its purchasing power even though its general fund income has increased from $12.2 to 29.7 million dollars. Due to inflation the $17.5 million dollar increase during the period of 1966-1975 in the general fund amounts to an increase of only $7.7 million in 1967 dollars.

One measure of wealth of a community college district is the assessed valuation per ADA and a second measure is the assessed valuation per enrollment. Figure 5 and Chart 4 represent the assessed valuation per fall enrollment and the assessed valuation per ADA generated. The assessed valuation per ADA declines from 1964 to 1969 then shows an upturn in 1970; however, the decline continues from 1970 to 1974 with a slight increase in 1974-1975. The decline between 1964 and 1969-1970 is not apparent when compared to the assessed valuation. What is observed however is a small increase in local assessed valuation and a marked increase in the number of students enrolling in the Peralta Community Colleges. The implication is that as the number of students increase there is less assessed wealth per student and thus the funds to be generated through taxation per student declines. In 1970 there was a marked increase in the assessed valuation of the Peralta Community College District and

THE EFFECT OF INFLATION ON GENERAL FUND INCOME

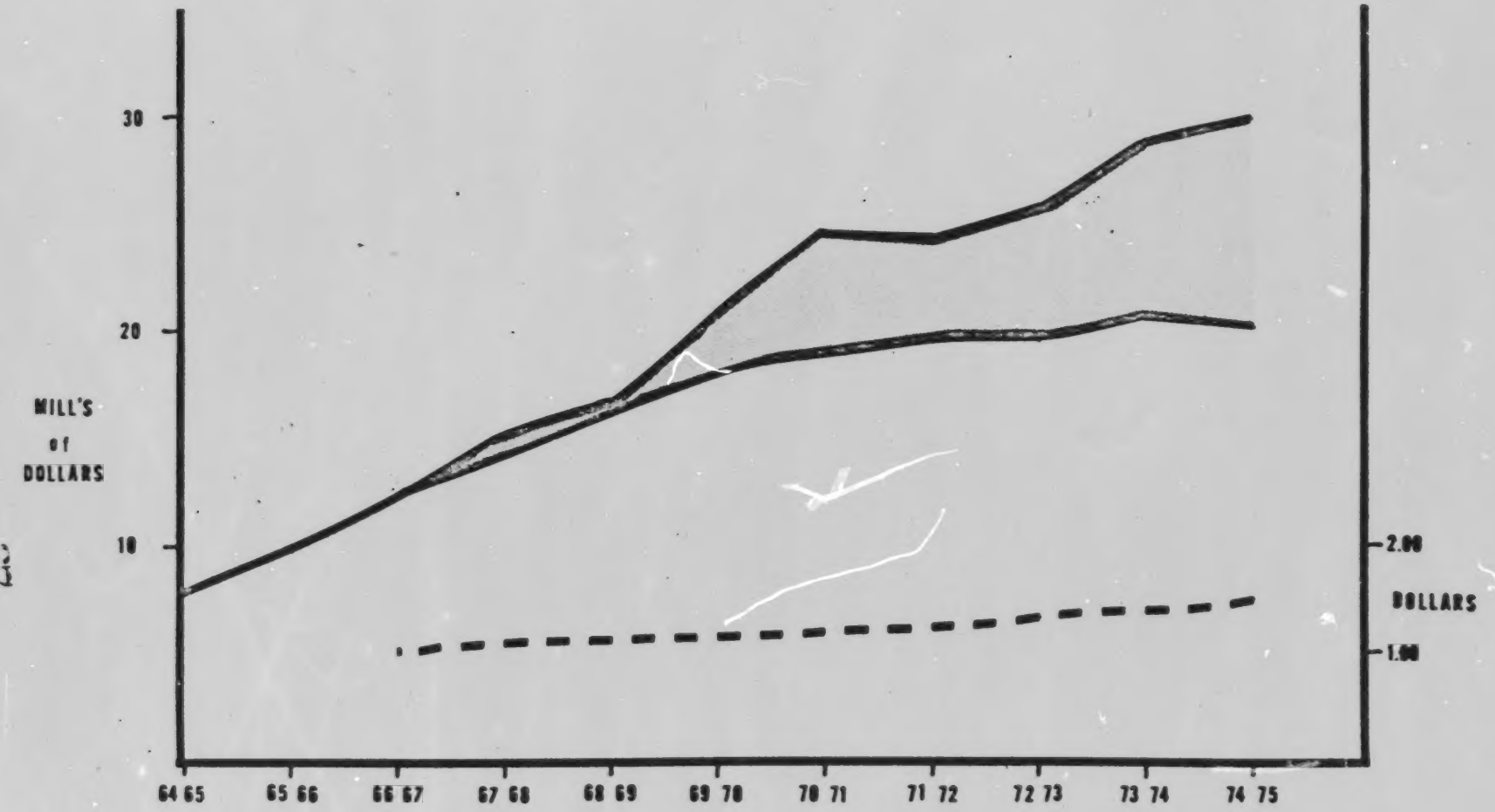
YEAR	TOTAL GENERAL FUND INCOME	CONSUMER PRICE INDEX	REAL DOLLARS
1966-1967[1]	$ 12,215,713	$ 1.00	$ 12,215,713
1967-1968	15,079,015	1.05[3]	14,360,966
1968-1969	16,421,220	1.10[3]	14,928,381
1969-1970	20,984,676	1.163	18,043,574
1970-1971	24,568,713	1.203[3]	20,422,870
1971-1972	24,429,297	1.253	19,497,183
1972-1973	25,829,927	1.324	19,509,009
1973-1974	28,919,000	1.385	20,880,144
1974-1975[2]	29,702,795	1.483	20,028,857

(1) Consumer Price Index 1967= $1.00

(2) CPI 1st 6 months

(3) Estimated

Chart 3



THE EFFECT OF INFLATION ON PURCHASING POWER OF THE PERALTA COMMUNITY COLLEGE DISTRICT. THE (— — — —) REPRESENTS THE CONSUMER PRICE INDEX, 1967 $1.00

Figure 4

ASSESSED VALUATION PER ADA AND FALL ENROLLMENT

YEAR	ASSESSED VALUATION PER ADA	ASSESSED VALUATION PER FALL ENROLLMENT
1964-1965	$ 128,050	
1965-1966	121,325	
1966-1967	109,659	
1967-1968	100,175	
1968-1969	104,627	$ 75,230
1969-1970	117,485	73,800
1970-1971	98,595	65,587
1971-1972	86,934	57,950
1972-1973	90,708	58,569
1973-1974	96,795	69,690
1974-1975	100,708	66,400

Chart 4

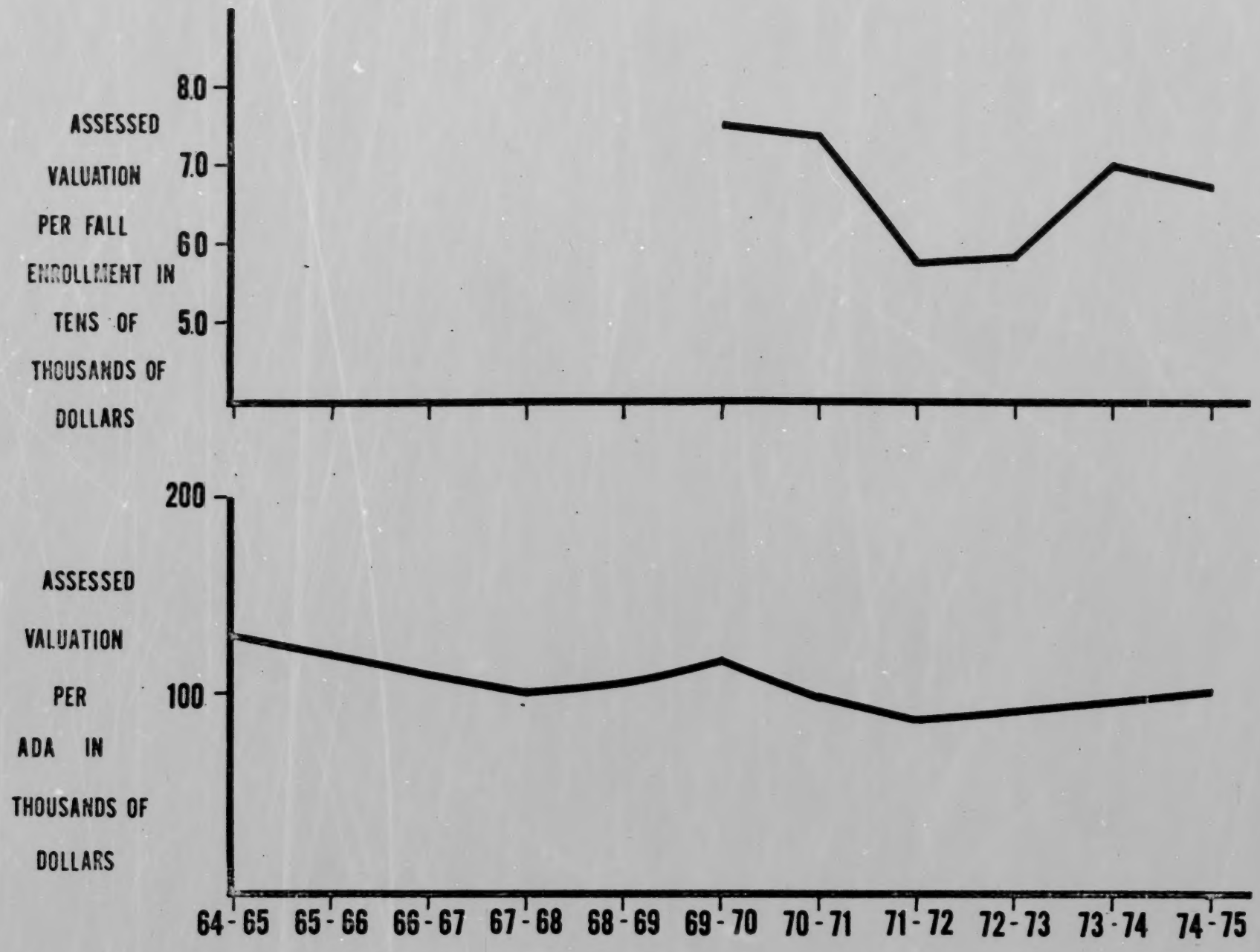

8.0
7.0
6.0
5.0
ASSESSED VALUATION PER FALL ENROLLMENT IN TENS OF THOUSANDS OF DOLLARS
200
100
ASSESSED VALUATION PER ADA IN THOUSANDS OF DOLLARS
64-65
65-66
66-67
67-68
68-69
69-70
70-71
71-72
72-73
73-74
74-75

Figure 5

since then the assessed valuation has continued to increase at about the same rate that was present from 1964 to 1970. The enrollment in the Peralta Community College District has increased at a more rapid rate than the rate of increase in the district's assessed valuation.

If the local community is to continue to provide the largest share of support for the district, there will have to be either an increase in the rate of increase of the assessed valuation or an increase in the tax rate per $100 assessed valuation.

GENERAL FUND ALLOCATION

The allocation of the general fund to the various Peralta Community Colleges is listed on Chart 5 and can be visualized on Figure 6. In the 1970-1971 academic year, the first year used in this report, adequate records were available for analysis and comparisons between four of the five elements of the Peralta Community College District. Between 1970-1971 and 1974-1975 the College of Alameda showed an increase of 33% of allocation; Feather River College an increase of 69%; Laney College during the same period of time shows an increase of 12%; while Merritt College shows an increase of 4% in allocation; and North Peralta Community College from the period of 1971-1972 to 1974-1975 had a decline of 25% in allocation. The total general funds allocated to the colleges of the district show an increase of 2% from 1970-1971 to 1974-1975, while the total Peralta Community College District general fund income increased by 21%. In 1970-1971 the allocation to the four colleges of the Peralta Community College District represented 49% of the total budget,

GENERAL FUND ALLOCATIONS
BY COLLEGE

	1970-1971	1971-1972	1972-1973	1973-1974	1974-1975
College of Alameda	$2,163,100	$2,474,700	$2,580,853	$2,803,062	$2,892,533
Feather River College	444,924	651,160	707,790	725,655	752,310
Laney College	5,256,800	5,769,450	6,018,488	6,550,402	6,316,289
Merritt College	4,322,800	3,951,040	4,026,949	4,716,943	4,494,520
North Peralta College	- 0 -	1,103,807	1,210,940	1,210,615	883,693
TOTAL	$12,187,624	$13,950,220	$14,545,020	$16,006,677	$15,339,345
PCC General Fund Income	$24,568,713	$24,429,297	$25,829,927	$28,919,000	$29,702,795

Chart 5

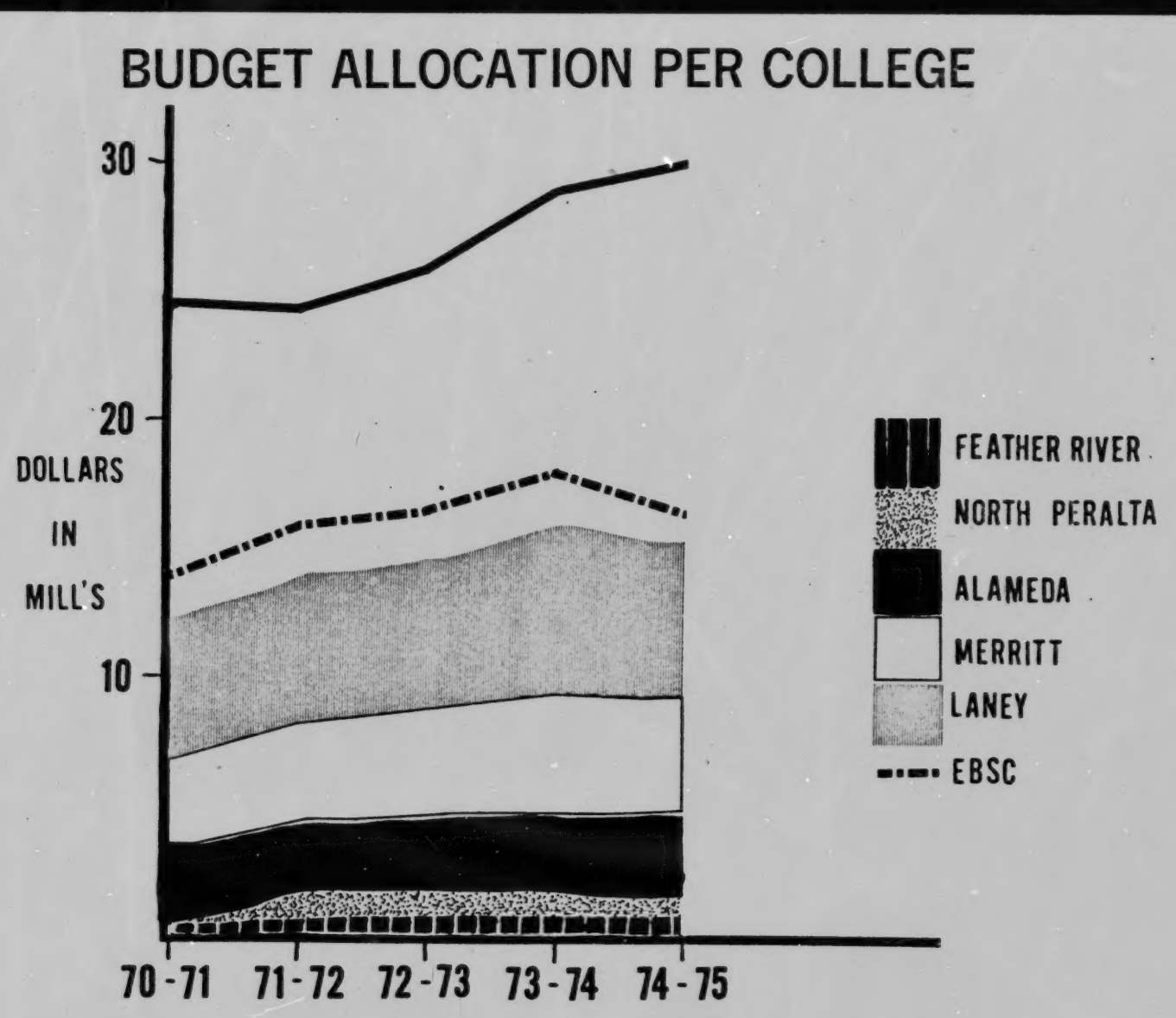

BUDGET ALLOCATION PER COLLEGE
30
20
10
DOLLARS
IN
MILL'S
70-71
71-72
72-73
73-74
74-75
FEATHER RIVER
NORTH PERALTA
ALAMEDA
MERRITT
LANEY
EBSC

Figure 6

whereas in 1974-1975 the allocation to the five colleges represented 51% of the total general fund income. The difference between the total Peralta Community College general fund income and the amount allocated to the colleges increases $1.98 million between 1970-1971 and 1974-1975. This increase represents 16% of the general fund income not allocated to the colleges. The difference between the funds allocated to the colleges and the total general fund income range from $12.38 million in 1970-1971 to $14.36 million in 1974-1975. Included in the funds not allocated to the colleges are aspects of college operations that are retained by the district office. Since the district accounting methods do not charge to the colleges those aspects of retirement, workman compensation, fringe benefits and other actual college expenses involved in this operation, it is impossible to determine each college's actual allocation or to analyze the cost effectiveness of the various colleges in their generation of ADA.

II. Population trends and enrollment in the Peralta Community College District

District population

The student population of the Peralta Community College District is drawn from the 6 cities of the district and Plumas County. The United States census of 1960 shows the total population of Peralta Community College District to be 582,898 while the 1970 census showed that the population had increased to 589,224 slightly more than a 1% increase. It is estimated that the Peralta Community College District population by 1980 will show an increase to 607,800 or a 3% increase (Chart 6 and Figure 7).

Time and computer access did not permit a thorough analysis of the population of the Peralta Community College District or a thorough analysis by cohort of students enrolled at a Peralta Community College.

POPULATION TRENDS BY CITY IN THE PERALTA COMMUNITY COLLEGE DISTRICT

CITY	1960	1970	1980	% CHANGE
ALAMEDA	63,855	70,968		+11.1
ALBANY	14,804	14,674		- 0.9
BERKELEY	111,268	116,716		+ 4.9
EMERYVILLE	2,686	2,681		- 0.2
OAKLAND	367,548	361,561		- 1.6
PIEDMONT	11,117	10,917		- 1.8
PLUMAS COUNTY	11,620	11,707		0.0
TOTAL PERALTA COMMUNITY COLLEGE DISTRICT AND PROJECTIONS FOR 1980				
	582,898	589,224		+ 1.0
		589,224	607,800	+ 3.0

Chart 6

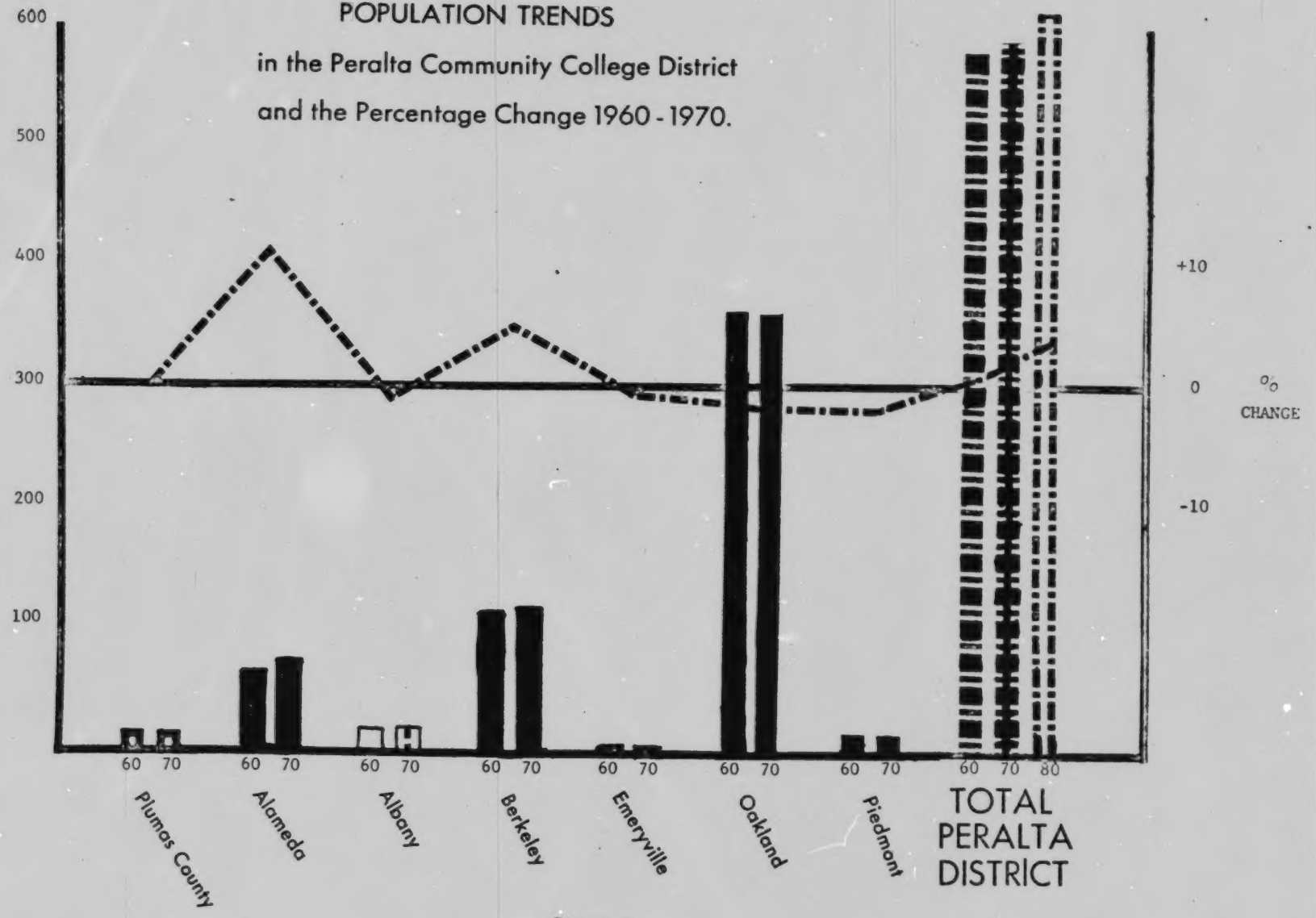

POPULATION TRENDS
in the Peralta Community College District
and the Percentage Change 1960 - 1970.
600
500
400
300
200
100
IN THOUSANDS
+10
0
-10
%
CHANGE
60 70
60 70
60 70
60 70
60 70
60 70
60 70
60 70 80
Plumas County
Alameda
Albany
Berkeley
Emeryville
Oakland
Piedmont
TOTAL
PERALTA
DISTRICT

Figure 7

Student Population

Data used for reports to be submitted to the Chancellors Office California Community Colleges provide limited information on the Peralta Community College District student population. This information forms the basis for the trends and summaries made below.

Figure 8 and Chart 7 illustrate the total fall enrollment of all the Peralta Community Colleges, 18,355 in 1968-1969 to 30,321 in 1974-1975. The total 1974 fall enrollment of 30,321 represents 5% of the total population of the Peralta Community College District. There was an average increase in fall enrollment of 14% between 1968-1969 and 1971-1972. In 1972-1973 the percentage increase dropped to 4% and in 1973-1974 Peralta Community Colleges experienced its first enrollment decline, a loss of 1,354 students or 5% of the 1972-1973 enrollment. The 11% increase observed in the fall 1974 enrollment over fall 1973 can be adjusted to 5% when compared with fall 1972. It would appear that the Peralta Community Colleges have experienced their major growth and are entering a period of reduced growth or even a period of declining enrollment. The increased enrollment in the fall 1974 may be the result of the intensive campaign of Operation Call Back, Peralta Pathways and other mail campaigns. This reversal of an apparent levelling off of student enrollment may be short-lived and the district may experience another decline in the fall 1975.

The total number of freshman enrolling in the Peralta Community Colleges varies from year to year with a dramatic increase in the fall of 1971 (Figure 8 and Chart 8). Following the fall of 1971 there is a

TOTAL FALL ENROLLMENT IN ALL PERALTA COLLEGES

YEAR	TOTAL FALL ENROLLMENT
1968-1969	18,355
1969-1970	21,002
1970-1971	23,968
1971-1972	27,660
1972-1973	28,718
1973-1974	27,364
1974-1975	30,321

Chart 7

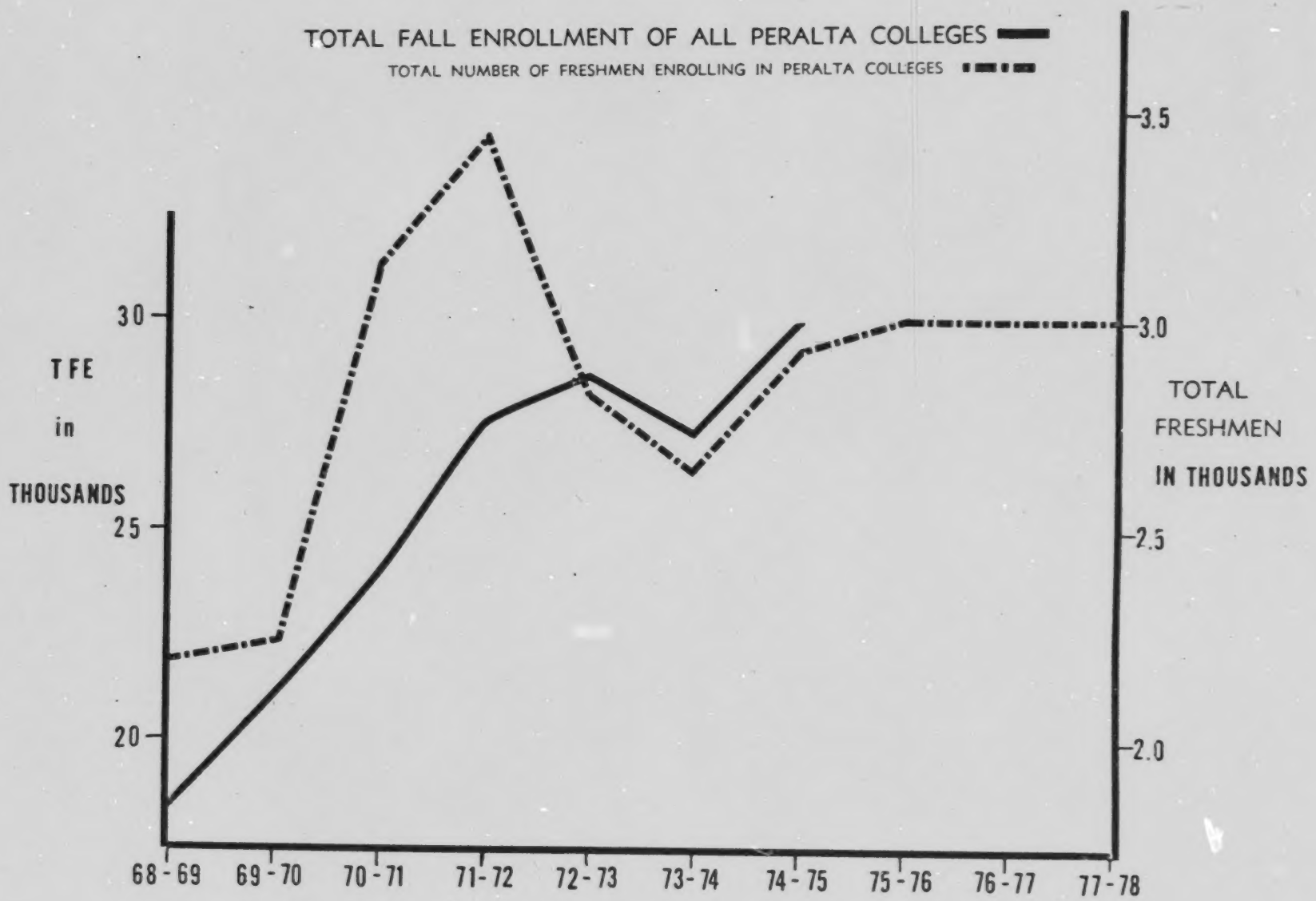

TOTAL FALL ENROLLMENT OF ALL PERALTA COLLEGES
TOTAL NUMBER OF FRESHMEN ENROLLING IN PERALTA COLLEGES
TFE
in
THOUSANDS
30
25
20
3.5
3.0
2.5
2.0
TOTAL
FRESHMEN
IN THOUSANDS
68-69
69-70
70-71
71-72
72-73
73-74
74-75
75-76
76-77
77-78

Figure 8

TOTAL FRESHMAN ENROLLING IN A PERALTA COMMUNITY COLLEGE IN THE FALL

YEAR	College of Alameda	Feather River College	Laney College	Merritt College	North Peralta College	TOTAL
1970-1971	1232	147	1334	436	-	3149
1971-1972	873	90	1454	876	135	3428
1972-1973	581	95	1006	952	185	2819
1973-1974	792	84	891	740	134	2641
1974-1975	843	102	1027	924	43	2939
1975-1976*						3003
1976-1977*						3024
1977-1978*						3061

Chart 8

* Source: BD240

decline through the fall of 1973 and an increase in 1974. The increase in freshman enrollment in 1974 parallels the increased enrollment in the Peralta Community Colleges in 1974.

Numerous articles are appearing in education journals and magazines discussing the crises faced by higher education in the decline of students entering college. In 1974-1975 there are almost a 1/3 of a million more 18 year olds in the United States than there were in 1970. However statistics show there is not a 1/3 increase in 18 year olds going to college. These potential students are seeking some other area of activity, work, etc. This trend is reflected in the decline in 1972 and 1973 of the total of students enrolling in a Peralta Community College (Figure 8), and only through an intensive recruitment campaign by the total district did the enrollment increase in the fall of 1974.

When analyzing the potential student population in the United States the U.S. Office of Education has indicated that the number of entering freshmen will give colleges a stable enrollment at most and at best during the 1970's, and beginning about 1977 there will be a rapidly diminishing freshmen enrollment which will continue through the 1980's. A further decline is expected in 1985 (see Figure 9). This decline in potential college freshmen is due to the decline in the number of high school graduates. Within the United States, there are currently more than 3 million high school graduates; this figure will begin to decline dramatically to about 2.5 million by the year 1990.

If the Peralta Community College District is to overcome a declining number of students available from local unified school districts it will have to increase its enrollment of other segments of the Peralta District population.

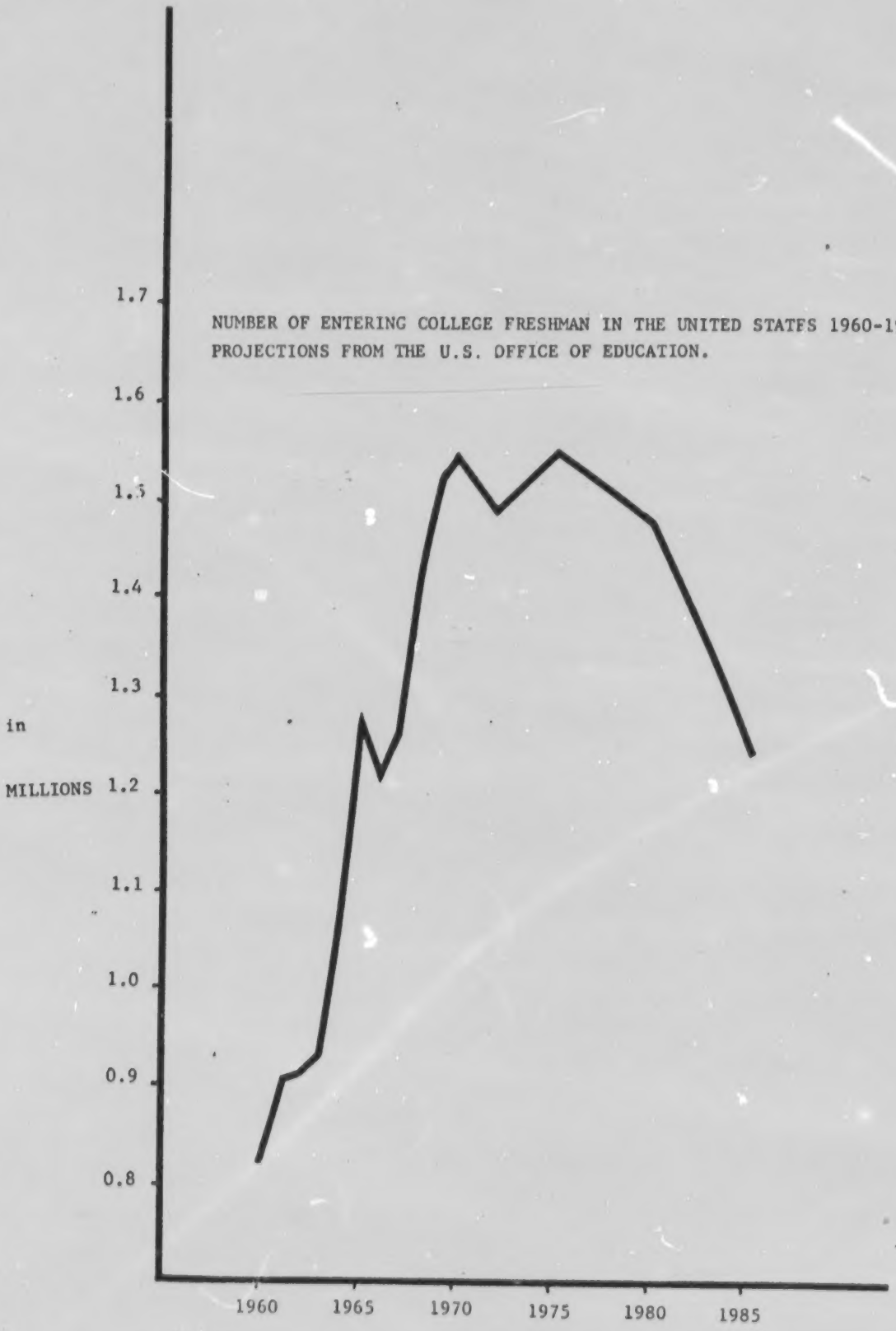

NUMBER OF ENTERING COLLEGE FRESHMAN IN THE UNITED STATES 1960-1985.
PROJECTIONS FROM THE U.S. OFFICE OF EDUCATION.
in
MILLIONS
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
1960
1965
1970
1975
1980
1985

Figure 9

One means of looking at the Peralta Community College District student population would be to determine the number of high school graduates graduating from unified school districts within the Peralta District and then determining the number of these students who enrolled the following September in a Peralta College. Figures 10 and 11 and Chart 9 represent not only the total number of high school graduating seniors within the Peralta District but also the number of June high school graduates that enroll in a Peralta College the following fall. The number of high school graduating seniors in the Peralta District is fairly constant ranging from a low in 1969 of 5,032 to a high in 1972 of 5,609, while the number of students enrolling in a Peralta College in the fall following graduation varies slightly from a high of 2,091 in 1971 to a low of 1,788 in 1974. The percentage of June graduates enrolling in a Peralta College varies from a high of 37.6% in 1971 to a low of 32.4% in the fall of 1972 and 1973. It is estimated from high school enrollments that there will be 5,429 graduating seniors in June 1975 and, if the trend lines and percentages are extrapolated from previous years, Peralta Colleges can expect about 33% or 1,791 June graduates in the fall of 1975. The number of June high school graduates enrolling in a Peralta College in September following graduation levels off at about 1,790 in the years 1976-1980. When the total number of freshmen enrolling in the Peralta Colleges in the fall are charted and graphed it can be observed that the numbers vary slightly from a high of 3,428 freshmen in 1971 to a low of 2,641 in 1973. The differences between total freshmen and freshman students who graduated from district high schools in June and enrolled in a Peralta College in the fall varies from a low of 844 in 1973 to a high of 1,337 in 1971. It appears that there is a steady

TOTAL HIGH SCHOOL GRADUATING SENIORS
PERALTA COMMUNITY COLLEGE DISTRICT
BY SCHOOL DISTRICT

	Alameda	Albany	Berkeley	Emeryville	Oakland	Piedmont	Total
1968	724	195	847	55	3309	194	5324
1969	590	168	842	59	3157	216	5032
1970	689	162	839	45	3467	210	5412
1971	727	145	971	42	3458	211	5554
1972	773	166	910	37	3484	239	5609
1973	707	164	895	37	3518	217	5538
1974	728	172	733	39	3187	229	5088
1975	689	173	849	45	3437	236	5429

DOES NOT INCLUDE NON PUBLIC SCHOOL OR PLUMAS UNIFIED SCHOOL DISTRICT

Chart 9

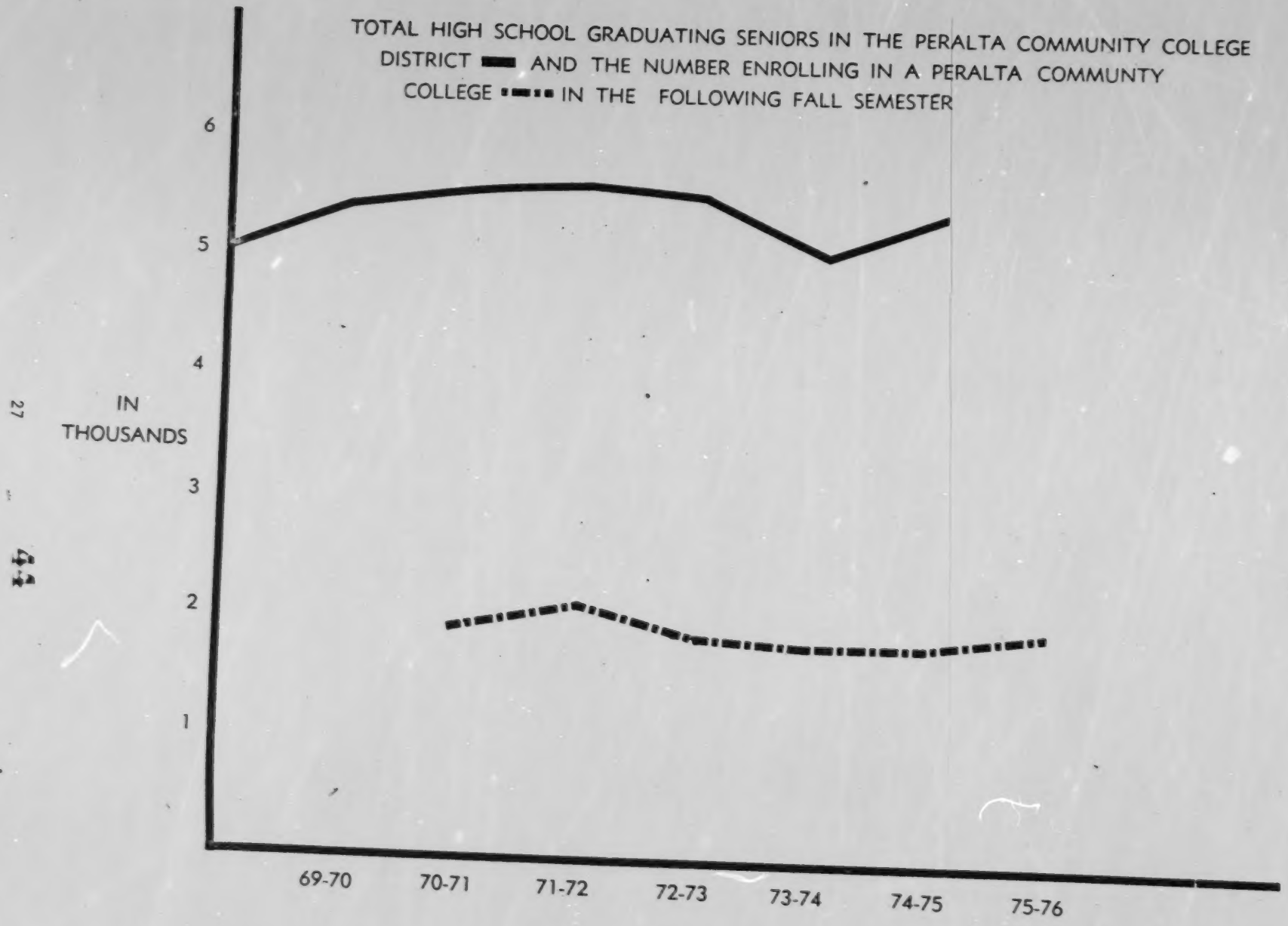

TOTAL HIGH SCHOOL GRADUATING SENIORS IN THE PERALTA COMMUNITY COLLEGE DISTRICT AND THE NUMBER ENROLLING IN A PERALTA COMMUNTY COLLEGE IN THE FOLLOWING FALL SEMESTER
6
5
4
3
2
1
IN THOUSANDS
69-70
70-71
71-72
72-73
73-74
74-75
75-76

Figure 10

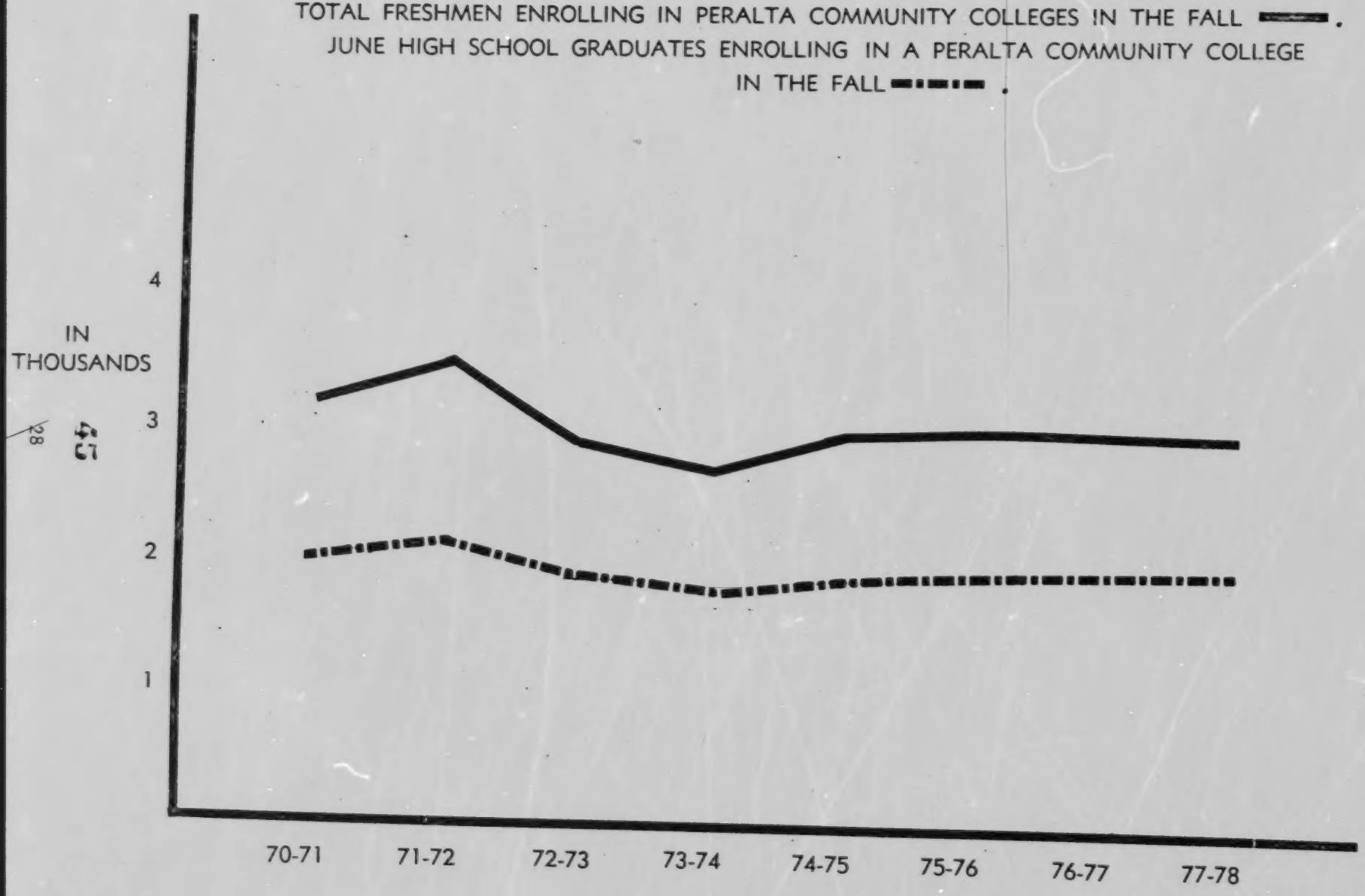

TOTAL FRESHMEN ENROLLING IN PERALTA COMMUNITY COLLEGES IN THE FALL
JUNE HIGH SCHOOL GRADUATES ENROLLING IN A PERALTA COMMUNITY COLLEGE IN THE FALL
IN THOUSANDS
4
3
2
1
70-71
71-72
72-73
73-74
74-75
75-76
76-77
77-78

Figure 11

decline of freshmen enrolling in the Peralta Colleges who graduated from high school in a year other than the year they enrolled in a Peralta College. In 1974-1975 we see that the total freshmen enrollment in the Peralta Colleges is 2,939 of which 1,151 graduated in years prior to June 1974. This is a decline from 1970 when the number of freshmen students who graduated prior to 1970 was 1,240.

Projections for the years 1975-1976 through 1977-1978 are extrapolated from State Department of Finance's Budget Division form 240 which is a statistical projection measuring the current and future student load on California's Community Colleges. This projection shows that the Peralta Community College District can expect to have a fairly stable freshmen class for the next six years until a decline commences in 1980 of the first time freshman students. When the percentage of graduating high school seniors enrolling a Peralta College in the fall following graduation is graphed, figure 12, it can be observed that some dramatic fluctuations occur within this student population, but the main point is that a trend line can be developed which shows a levelling off of June graduates enrolling in a Peralta College. The projection from the BD-240 and the estimates of the number of graduating seniors from the unified school districts within the Peralta Community College District tend to level off at approximately 33% and hold at this level for a substantial period of time.

ADA Generated

The total ADA produced by the Peralta Community College District has increased from 8,257 units of ADA in 1964-1965 to an estimated 19,785 units of ADA in 1974-1975(Figure 13 and Chart 11). There is a constant

THE NUMBER OF JUNE HIGH SCHOOL GRADUATES ENROLLING IN A PERALTA COMMUNITY COLLEGE IN THE FALL AND THE PERCENTAGE THIS NUMBER REPRESENTS OF THE TOTAL JUNE HIGH SCHOOL GRADUATES.

Fall	College of Alameda	Feather River College	Laney College	Merritt College	North Peralta	Total	Percentage of June Graduates
1970	757	65	875	212		1909	35.2
1971	671	90	696	574	60	2091	37.6
1972	430	95	551	680	61	1817	32.4
1973	563	72	533	574	55	1797	32.4
1974	581	93	514	612	8	1788	35.1
1975*						1791	33.0

Chart 10

* Source: BD240

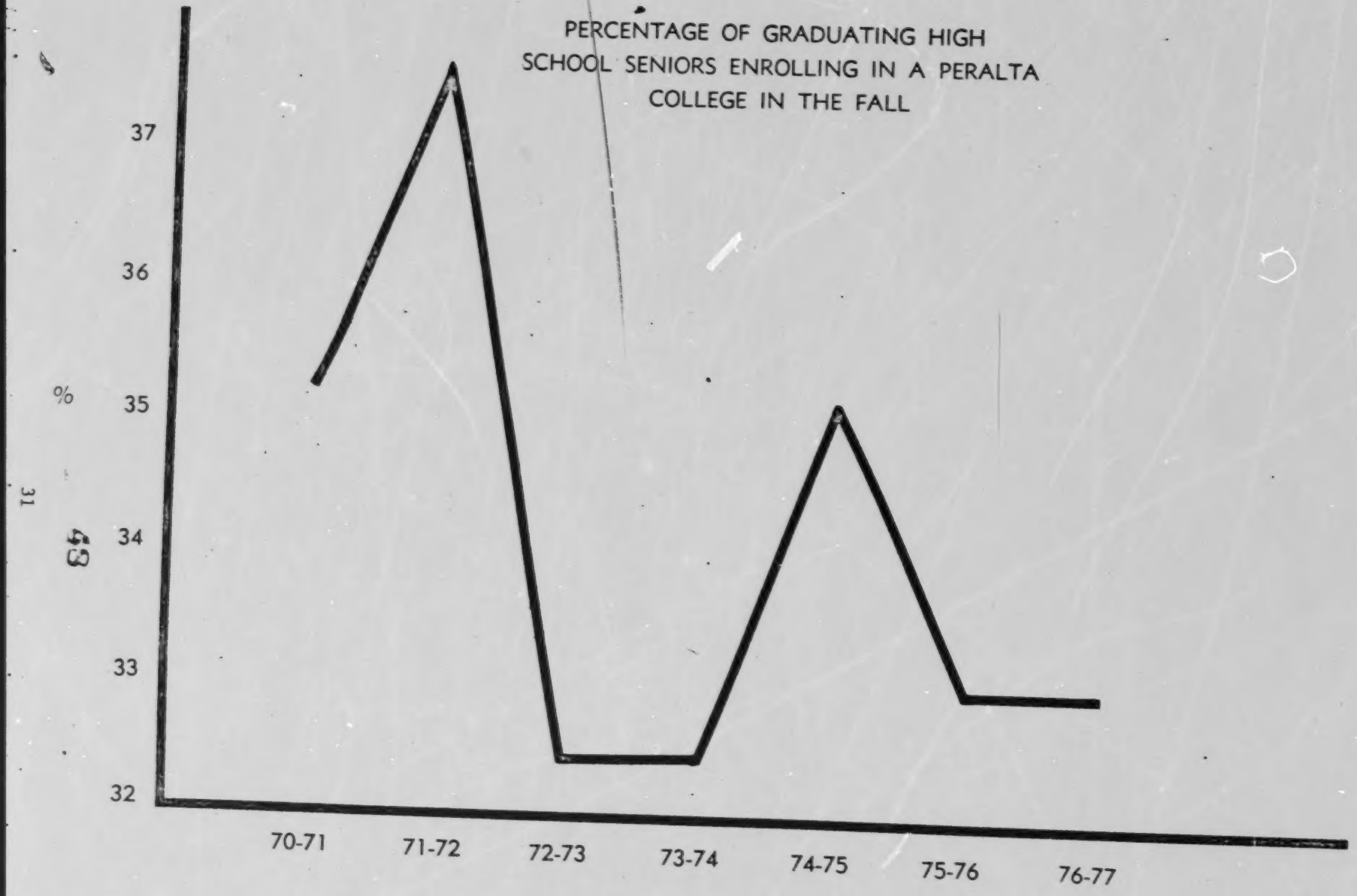

PERCENTAGE OF GRADUATING HIGH SCHOOL SENIORS ENROLLING IN A PERALTA COLLEGE IN THE FALL
37
36
35
34
33
32
%
70-71
71-72
72-73
73-74
74-75
75-76
76-77

Figure 12

PERALTA COMMUNITY COLLEGE DISTRICT TOTAL ANNUAL ADA BY COLLEGE

YEAR	COLLEGE OF ALAMEDA	FEATHER RIVER COLLEGE	LANEY COLLEGE	MERRITT COLLEGE	NO. PERALTA COLLEGE	TOTAL
1964-1965			3730	4527		8257
1965-1966			4269	5579		9848
1966-1967			4302	5747		10,049
1967-1968			5425	6344		11,770
1968-1969	39	62	6368	6730		13,200
1969-1970	288	144	7509	5887		13,811
1970-1971	3580	411	7479	5377		16,849
1971-1972	3712	508	9022	5243	1363	19,850
1972-1973	3490	527	8525	5658	1362	19,564
1973-1974	4060	636	8481	5605	924	19,706
1974-1975 *	3988	641	8423	5762	750	19,782ø

* Budgeted in 1974-1975

ø Includes 218 ADA unassigned to a college

Chart 11

TOTAL ADA GENERATED

PERALTA COMMUNITY COLLEGE DISTRICT BY COLLEGE

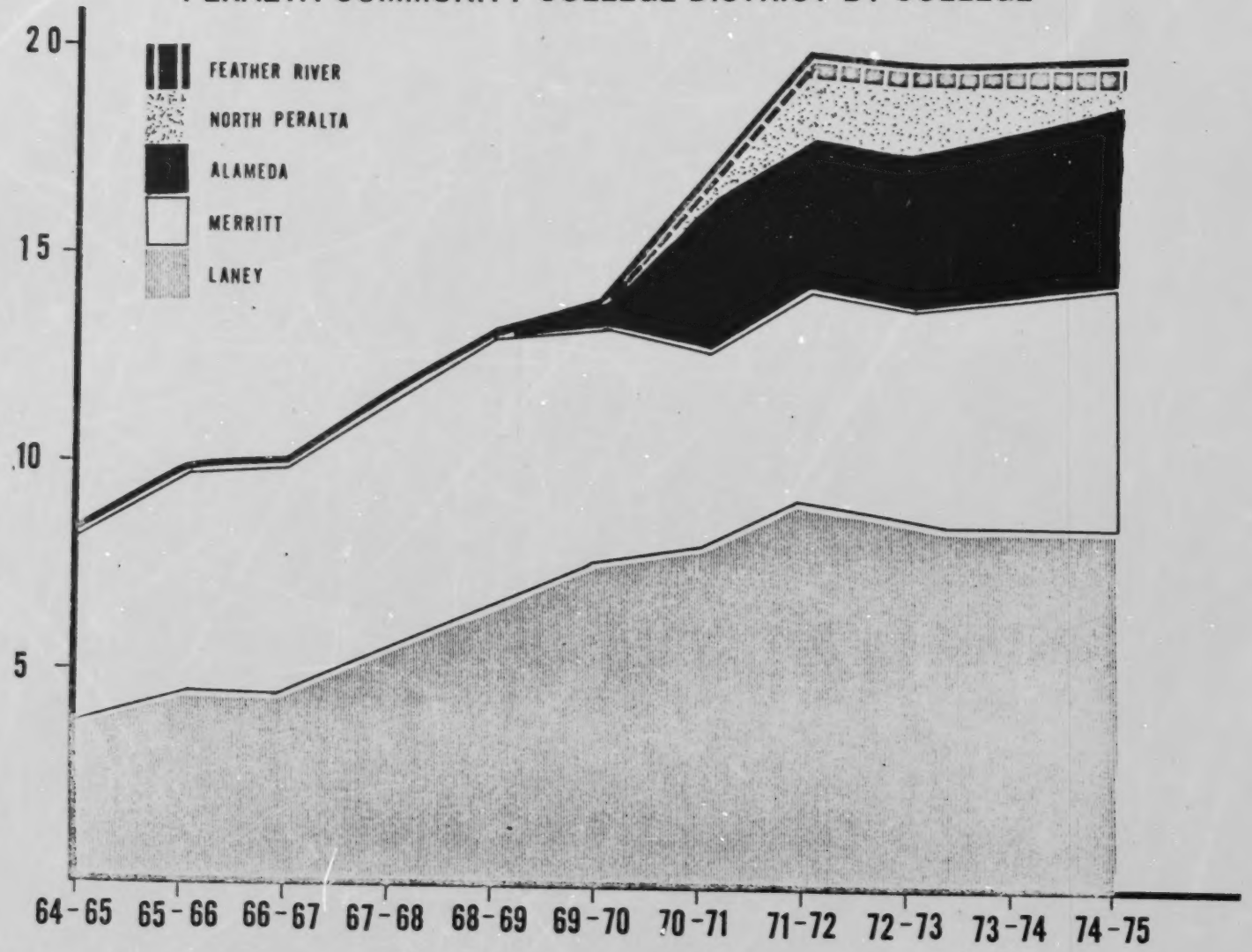


Figure 13

increase in the number of ADA units up to academic year 1971-1972 at which time the values reach a plateau and flatten out. The large jump in ADA production 1970-1971 and 1971-1972 is reflected in part by the opening of two new colleges, the College of Alameda and North Peralta Community College.

An interesting comparison can be observed when the units of ADA produced by each college and the total budget allocated to each college are analyzed. By dividing the number of units of ADA into the total college allocation, a budget allocation per ADA by college can be obtained (Figure 14 and Chart 12). This value might be considered a cost effectiveness index and varies from college to college as might be expected. The lowest value achieved by any of the Peralta Community Colleges was by the College of Alameda in 1970-1971 where it cost $604 to generate 1 unit of ADA. On Figure 14 the value of an ADA as represented by a dash line.

In 1973 Senate Bill 6 became effective; it sets the value of an ADA unit for the academic year 1973-1974 at $1,058, increasing in 1974-1975 to $1,115. The state of California's apportionment per unit ADA in 1973-1974 was $688, with the balance of $370 being generated by local taxes. In 1974-1975 the state apportionment per ADA increased to $725 with local taxes also increasing to generate $390 per ADA unit.

A decline in the value of an ADA unit is observed from 1970-1971 to 1972-1973 with the greatest decline occuring between the academic years 1970-1971 and 1971-1972. This period of time corresponds with an increase in Fall enrollment for

GENERAL FUND ALLOCATION BY COLLEGE PER ANNUAL ADA

	1970-1971	1971-1972	1972-1973	1973-1974	Est. 1974-1975	Proj. P1 1974-1975
College of Alameda	$ 604	$ 667	$ 739	$ 690	$ 725	$ 679
Feather River College	1,081	1,280	1,341	1,141	1,180	1,114
Laney College	703	639	706	772	750	674
Merritt College	804	753	712	842	780	754
North Peralta College	-	810	889	1310	1,178	2,850

Chart 12

BUDGET ALLOCATION PER ANNUAL ADA BY COLLEGE

The ▪▬▪▬ represents the value of an ADA The 1974-1975 estimate is based on budgeted ADA per college.
The 1974-1975 projected budget allocation per annual ADA is based on the estimated 1974-1975
P-1 multiplied by a factor for each college.

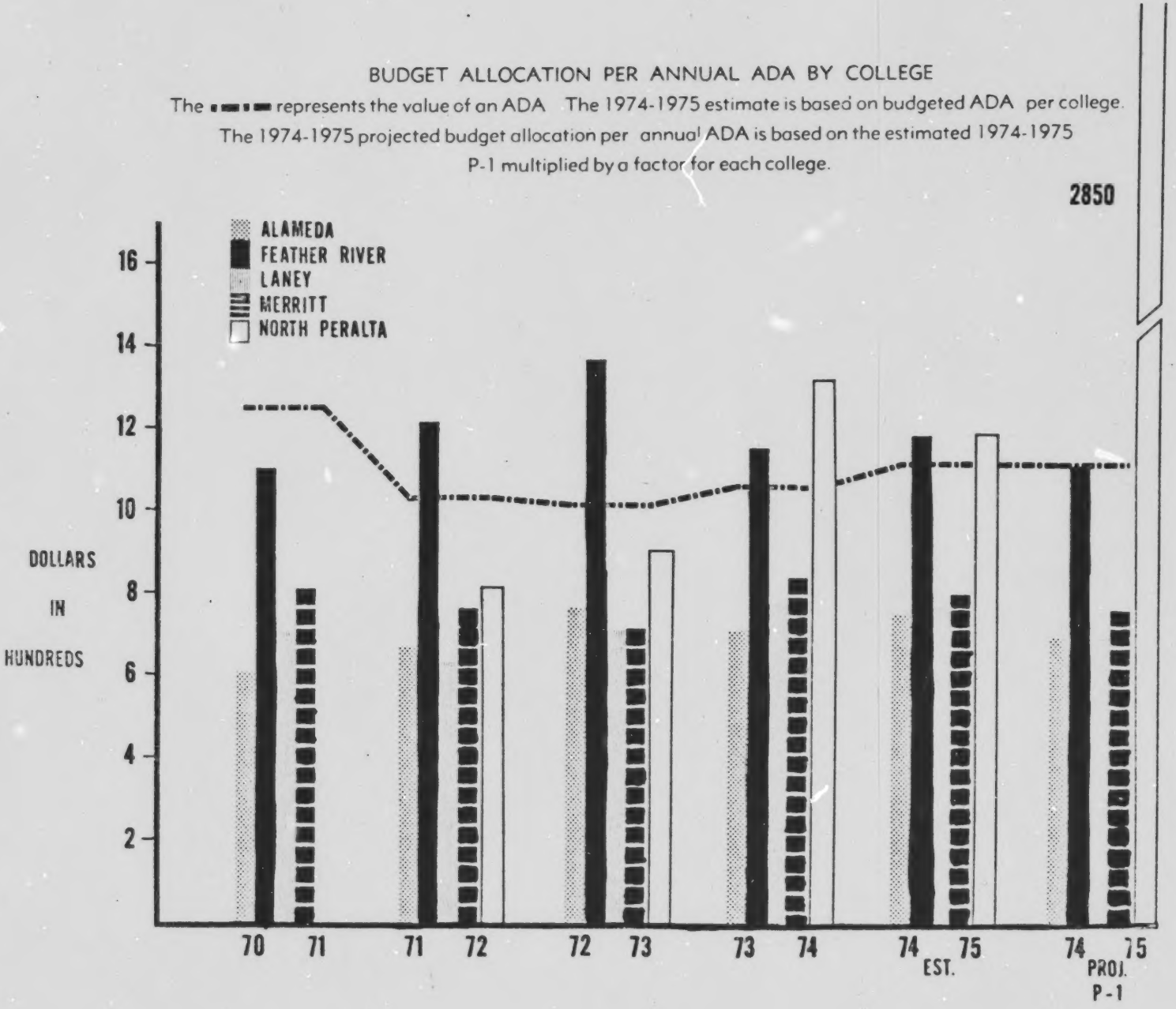


Figure 14

all the Peralta Colleges, 23,968 in 1970-1971 to 27,660 in 1971-1972. During this same period of time, the assessed valuation of the Peralta Community College District increased $45,403,937. Even with this increase, the assessed valuation per fall enrollment declined $7,637 and the assessed valuation per ADA declined $11,661. The net result was that as the number of students increased there was not the same proportionate increase in funds derived from local taxes. Thus the total value of an ADA unit, state apportionment and local taxes combined, declined, from 1970-1971 to 1971-1972. The reduced value of ADA persisted through 1972-1973.

Estimates for 1974-1975 are based on the number of units of ADA assigned for each college for 1974-1975 and the budget allocated to each college. The projection for 1974-1975 is derived from the P1 reporting period where this value is compared to the P1 values of the preceding four years. When this was done a factor was determined for converting from the total ADA of the P1 to the annual ADA, which resulted in greater cost effectiveness for all colleges except North Peralta Community College (where it declined to $2,850).

The comparison of the cost to produce one ADA at the colleges is interesting and informative but its relationship to learning effectiveness at each college is unknown. What are the factors that result in a higher cost per ADA at Feather River College and North Peralta Community College when compared with the other three colleges? Unfortunately the task force did not have time or computer resources available to undertake a more detailed analysis of the cost effectiveness of each college.

III Uncompleted Objectives

1. The task force had intended to investigate the profile of the Peralta District population which would include an analysis of the population in terms of age sex, economic background, ethnic group, vocational patterns and other demographic considerations of the district. However due to a lack of time and information the task force has not been able to complete the entire program as set forth. Recently the Peralta Administrative Council approved a proposal by Dr. Peter Selo of Laney College to begin a study of the demographic characteristics of the Peralta Community College District and it is anticipated that this study will provide a great deal of information in terms of the community the Peralta Colleges are trying to serve.

2. The task force had intended a more detailed study of the funding and expenditures of the Peralta District but time, personnel, and computer limitations reduced the amount of information that could be assimilated and analyzed.

IV. Summary and Implications

The Peralta Community College District is faced with a situation that parallels other institutions of higher learning in the United States in that costs are increasing and enrollments are levelling off or even declining. This situation requires the Peralta Community College District to initiate a detailed study of future funding and enrollment projections in order to formulate and project educational planning for the future.

The Peralta Community College District should undertake a study of the demographic characteristics of the district in order to obtain as much information about the population of the district as is possible. Through this study the district will be able to identify segments of the Peralta Community that are not now being served by the colleges. These segments of the Peralta Community not currently being served are an untapped reservoir of potential students for the district.

Peralta Community College District should undertake to develop new educational strategies that will provide a maximal educational opportunity for students while maintaining educational excellence. The development of new educational strategies will require an implementation phase. These new educational strategies could take the form of:

A. Computer assisted instruction (CAI)
B. Instructional Television (IT)
C. Development of instructional modules involved with learning centers: campus and satellite
D Curriculum packages which are patterned after the coordinated instructional systems approach.

These strategies would provide a means by which the cost effectiveness could be increased while maintaining the current level of excellence in instruction. Sufficient research and information is available on these systems to warrant the Peralta Community College District investigating their potential use within our district. The development of these alternative instructional strategies will from their inception require extensive faculty involvement and should be provided for within the district budget.

If the Peralta Community College District does not initiate the development of new instructional strategies the district will be continually faced with the problem of increasing cost with a student population which has leveled off or begun to decline. It is important to notice that the facilities already completed are designed for a student population at least as large as our current enrollment and this costly investment cannot be undone, and does belong to the community.

EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

Task Force Three: Needs of Emerging Groups

Bay Area Colleges Report

Prepared by

Jeanette Elaine Lockley, Ph.D.
Chairperson

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Leroy Votto, Merritt College

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Appendix A Progress: Dietitic Traineeship Program Initiated

Appendix B Liason - The Official Publication of the Alameda County Sheriff's Department

I. INTRODUCTION

A. Statement of Purpose

The purpose of Task Force #3 is to:

(1) Identify and develop contacts with groups of individuals within the Peralta Community College District that might benefit from the course offerings currently available at the various campuses but are not availing themselves of this opportunity.

(2) Identify and develop contacts with groups of individuals within the Peralta Community College District which historically have been excluded from consideration in curriculum development in higher education.

B. Steps Needed in the Research Development

Step 1: Identification of Groups.

Step 2: Develop roster of organizations or institutions which each group patronizes.

Step 3: Make contact with each group identified and develop need assessment inventories for distribution in areas deemed necessary.

Step 4: Distribution of inventories, collection and tabulation of data.

Step 5: Evaluation of data.

II. IDENTIFICATION OF EMERGING GROUPS

To locate emerging clientele whose need for service requires new approaches to the education process we focused our attention on five major classifications as follows:

Group 1. Institutional Population

This group includes those individuals currently serving in the military, incarcerated in a penal institution, in a mental health facility, or hospital for the physically handicapped.

Group 2. Racial-Ethnic Minorities

Group of people racially or historically related, having a common culture. Major focus on Indians, Chicanos, blacks, Filipinos or Asians.

Group 3. Transitional Populations.

This group includes individuals changing from one social population to another. e.g., ex-convict, parolee, drug addict, or veteran.

Group 4. Adult.

Includes adult re-entry programs, continuing education, with major emphasis on problems of education of women, the elderly, or middle-year individual.

Group 5. Special Needs.

Welfare recipients, foreign speaking, physically or mentally handicapped exceptional, talented, upward bound types, mid-year graduates, the middle-class or those individuals desiring courses for enrichment or fulfillment purposes.

The committee quickly realized that the above list of five major groups could be expanded to include other subgroups each of which could be classified as an emerging group worthy of consideration. However, to examine each and every such subgroup in detail would take an enormous amount of time, money and personnel. September, 1974, and a new school term brought a dwindling committee which was faced with no budgetary allowance, minimum clerical assistance, time restraints and job restraints. We were forced to realistically restrict our attention to those subgroups which generated the greatest interest of the individuals serving on the committee. Hence, this report will be limited to the discussion of people from the following six populations:

A. The Military
B. Women
C. The Middle-Class
D. Mid-Year High School Graduates
E. Hospitals
F. Penal Institutions

A. THE MILITARY

Several military installations are housed permanently in the Peralta Community College District such as: Marine Corps Reserve(Alameda); Army Reserve (Oakland); Oakland Army Base (Oakland); Naval Air Station (Alameda); Naval Hospital (Oak Knoll, Oakland); Naval Supply Center (Oakland); and Coast Guard Training Center (Alameda). These military installations together represent approximately 22,000 people, 18,000 of which are military. The majority of the military personnel is located at Naval Air Station.

Military Schools are an integral part of the military. They are the source of commissioned officers and are maintained by all services within the United States. Every base has the need for some classroom instruction, not only for commissioned officers but for non-commissioned officers, recruitees, and civilians as well. Many of these potential students are unable to fit into existing programs on any of our campuses because of such barriers as: uncertainty of satisfying District residency requirements, lack of information concerning tuition requirements, poor coordination of Peralta courses with courses offered by the Army's Servicemans Opportunity College or the Navy's Campus for Achievement; conflict of work days or hours or a combination of several of these.

The Peralta Community College District currently is conducting courses on only three bases - Oak Knoll Naval Hospital, Oakland Army Base and Naval Supply Center. There is considerable need to expand these services and extend course offerings to the other installations.

Education officers have been contacted to informally ascertain their interests in courses offered by the District. Several contacts have expressed the desire to have classes offered on their base which both military and civilians might attend which would lead to the AA or BA degree. There is also an interest in courses aimed at job-related situations such as organizational and management techniques. In order to comply to these desires we must resolve some problems related to-minimum class size, restricted student populations, and quarter/semester restrictions.

Recommendations

1. Development of an inventory for distribution to each military installation in the East Bay to ascertain their particular course needs. Make personal contact with appropriate individuals on each base to discuss current curriculum offerings at the campuses within the District and distribute enrollment information.
2. Clarify District residency requirements for persons having military residences.
3. Coordinate classes offered within the District to complement the Armys' Servicemans' Opportunity College and the Navy Campus for Achievement.
4. Relax minimum class size in order to establish new programs.
5. Offer short term or week-end courses.
6. Consult legislators as to exemption from current laws which restrict holding classes in an institution which keeps out the general public (such as ships at sea).

Contacts

Oakland Army Base, Education Officer, Mr. James Johnson-military;
Chief of Training and Development, Mrs. Perry Rogers-civilian.

Transportation Department of Coast Guard-Training Center, Government Island Alameda, Education Officer-Mr. Dave Nelson.

Naval Supply Center-Director of Education, Ms. Tiny Dougherty

Naval Air Station-Education Officer, Mr. Robert Shannon.

B. WOMEN

The need for a women's re-entry program is based on recognition that many women discontinue their education at a relatively early period in life. This is caused by various reasons such as marriage, child-bearing, child-rearing, financial need, and social discouragement of women in higher education. Many who leave school, later wish to return to earn a degree; but are afraid of competing with the younger students.

a case study

Mary Jones, a divorcee, is 33 works part-time as a secretary and attends classes at one of the Peralta Colleges. She has always wanted to be a teacher and attempted to go to college even after her marriage; but since her husband was in school she had to go to work to support the family. Now divorced, her education is more valuable to her. She has returned to school but does not feel a part of the student community. She feels that older women are not welcome in extra curricular activities and she shies away from the student union. But of even more concern to her is the fact that there is no place on campus where a serious student can study and find a cup of coffee at the same time-no quiet comfortable place. She feels the need to be accepted on entering school as a mature woman with specific needs and ambitions. She strongly feels that this acceptance should be initiated by the school.

District Development Towards Women's Re-entry

The various campuses with the Peralta Community College District are at various stages in the development of a program designed for women in continuing education.

Alameda

The College of Alameda has a committee formed which is conducting meetings to evaluate the needs of women and are currently offering seminars related to the needs of women. These seminars are offered through the Office of Community Services. In an attempt to meet the needs of working students Saturday classes are also scheduled.

Laney

Laney College's womens' re-entry program is sponsored by the Office of Community Services. This program is aimed at the educationally disadvantaged woman and attempts to provide these women with a flexible, accessible and realistic educational program. Courses in consumer finance, psychology, mathematics, English, sociology, occupational exploration, speech and typing are being offered. Special counseling and guidance classes, orientation classes, as well as financial assistance are available to assist the enrollee. One-hundred fifty (150) women are currently enrolled as full-time students in this program.

Merritt

During Fall semester, 1973, a womens' re-entry committee of the Womens' Caucus was formed to focus on older women as students. (The definition of "older" women was used to include any woman who identified herself as being in this category) Their purpose was to show interest and give encouragement to these women, to broaden the understanding of their special characteristics, and to identify and promote services needed by them.

A selectively distributed questionnaire was distributed and 61 women responded, reflecting a range of backgrounds and needs as follows:

AGE:	41	between the age of 25 and 35 years
	20	over 35 years
TOTAL:	61	

MEANS OF SUPPORT:	25	rely on husbands' salary
	11	on welfare
	19	currently working
	6	other means of support
TOTAL:	61	

EDUCATIONAL AIMS: Most of these women stated that her aim was vocational and expressed a desire for personal growth and education (composite).

SPECIAL NEEDS:

28	Expressed an interest in special courses on counseling directed toward re-entering women students.
31	Found it hard to cope with conflicting demands of school, family and work.
17	Would like to meet other re-entering women.
15	Felt disoriented or ill at ease in the student role.
12	Having academic difficulties.
8	Difficulty obtaining appropriate child care.

Several Merritt instructors were also interviewed and these comments were expressed:
"Older women seem to have a high commitment to their education..." "these students set high academic standards for themselves", "...they're responsible, wish to understand the assignments, often seek help and take criticism seriously, although often under considerable personal stress," "these students are anxious about not being able to concentrate and worry about competing with younger students," "...Usually among the best students in the class".

Currently Merritt College offers these services to re-entry women.

(1) Classes aimed at the older women are being held at Oakland Development Center, West Oakland Health Center, Bushrod Recreation Center, Inter-Tribal Friendship House, convalescent hospitals and various churches Courses are offerred for the purpose of up-grading in basic skills, teachers aides, nursery and health aides, nursery school assistants and community social workers

(2) Special counseling services include a counselor assigned to this group, peer counselors, rap sessions an OUT-REACH program of speakers for community centers, clubs, and churches.

(3) Arrangements for child-care and a planned extension of present child care facilities.

(4) Cooperative education.

(5) Credit by examination in many areas including but not excluded to: nursing, x-ray, electronics and music.

Recommendations

1. Development of a "Career Exploration for Women" class should be given highest priority.
2. A handbook should be made available with material for re-entering women students to give information on counseling, vocational opportunities, child care, financial aid and other special matters as well as general campus orientation.
3. A special registration and orientation meeting for women should be offered separately from the regular college registration with suggestions of courses reflecting women's interests in enrichment and career opportunities will serve to encourage additional mature women to continue their education.
4. Development of courses tailored to the life experiences of the older woman should be encouraged.
5. Re-entry students need more mini-classes, Saturday classes, open or continuous enrollment early morning or late afternoon classes.
6. A budgetary commitment should be made to the establishment of new programs which will probably not have 25 students enrolled.

C. THE MIDDLE CLASS

No attempt has been made by the committee to define the term "middle-class", however, no matter what index is used to define the term, family income is one index to social class. There are many other indices such as, occupation of father, type of housing, educational level of parents, etc. Family income is very highly correlated with all of these other indices.

The class differentiation of American society has been intensely analyzed by sociologists and anthropologists, R.C. Tryon (Identification of Social Areas by Cluster Analysis. University of California Publication, Psychology, 1955, 8, no. 1) studied the intercorrelations among 33 kinds of census data for 243 neighborhoods in the San Francisco-Bay area. The analysis yielded three factors on dimensions. The first is Family Life, (F) characterized by single family dwellings, large families, and non-working housewives. The second, Assimilation, (A) refers primarily to proportions of native-born white residents in a neighborhood. The third factor is identified as Socioeconomic Independence, (S) and includes such variables as high occupational and educational level, high quality homes, and employment of domestic servants. Tryon points out that what is usually designated as socioeconomic level, as well as the social status by other researchers, represents a combination of his Socioeconomic Independence and Assimilation factors.

District Developments

Merritt College has community events aimed at this segment of the population which are offered through Community Services such as: Anthropology Museum exhibits, lectures, film series, Toward Century 21,

Prometheus Symphony concerts...Several courses have been developed such as· hobby and special interest classes as - women in search of self, interpersonal relations sailing, bowling golf, tennis, classes for the overweight, quilting, interior decoration, creative fashion, consumer education, photography, bookbinding, woodworking, auto repair, jewelry ceramics OUTREACH, painting and sculpture. (It should be noted that while these courses are not especially designed for the middle-class sector they hold great attraction for these individuals.)

Recommendations

1. Establish package programs for individuals interested in guided tours, field trips, conversational languages for the traveler.
2. Develop in-service training courses for junior or senior high school teachers as well as Peralta faculty for upgrading skills.
3. Develop classes for wives of faculty members or other individuals desiring a course for enrichment purposes.
4. More flexible instructors that are geared to the less formal program are needed for the OUTREACH program.

Contact Groups

Service Organizations (Elks Moose, Rotary, college fraternities or sororities, etc.)

Churches. Synagogues, etc.

Professional organizations (teachers' unions, Bar associations, etc.)

Garden Clubs

retirement homes

D. MID-YEAR HIGH SCHOOL GRADUATES

Mid-year high school graduates are those students finishing high school prior to June of any school year. These students often find themselves with little to do with their lives and are returning to the high school program. High school administrative staffs are emphasizing programs with these students in mind. The following information was gathered in May, 1974 from a number of principals, vice-principals, deans, counselors, as well as secretaries for these administrators.

There were 776 mid-year graduates in the Bay Area during the Spring of 1974. The schools reporting were:

City of Alameda

Alameda High	48
Encinal High	unknown
	48+ TOTAL

City of Oakland

Castlemont High	139
Fremont High	65
McClymonds High	20
Oakland High	100
Skyline High	123
Oakland Tech.	86
	533 TOTAL

City of Piedmont

Piedmont High	30

City of Berkeley

Berkeley High	150

City of Albany

Albany High	15
	776 TOTAL MID-YEAR GRADUATES

Some of these mid year graduates have already enrolled in our colleges upon graduation, although the percentage is unknown. No follow up study was reported by the various schools and hence, no data is available to ascertain the percentages of those working or attending school.

Recommendations

The District should become cognizant of the fact that mid-year graduates will be increasing and act accordingly, by contacting all high school officials and offer to send counselors or some college representatives to meet with the mid-year graduates as well as the June graduates.

E. HOSPITALS

Three hospitals in the area were studied. They are Herrick Hospital, Highland Hospital in Oakland, and Providence Hospital, also in Oakland. Although Highland was the largest hospital and the only county facility that was studied, all three hospitals had more or less similar attitudes and programs toward education of their personnel. The statistical breakdown of personnel was:

	# on Staff	Bed Capacity	Average Bed Capacity
Herrick	850	214	165-200
Providence	800	230	184
Highland	1200	454	200

These staff figures include full-time, part-time, on-call, and relief personnel.

The persons interviewed were either personnel officers or hospital administrators. They were all eager to discuss their educational programs and were receptive to the prospect of expanding these programs through involvement with the community colleges.

Existing Educational Programs

All of the hospitals had some sort of on-going training program in safety, fire, and disaster training. In addition there were programs offered by hospitals in radiology, coronary care, and nutrition.* Education institutions such as U.C. Medical Center San Francisco, U C. Berkeley, Laney and Merritt Colleges and the Skills Center offer courses for credit in LVN training.* X-ray Technology, laboratory technology, and foreign language (especially Spanish) for credit. The hospital administrators generally

*see Appendix A

expressed satisfaction with the existing programs, although all of them indicated a desire to expand them by offering more courses.

Projected Educational Needs

According to the persons interviewed, many registered nurses want to go on for their Bachelor Science degree in nursing or for a Bachelor of Arts degree in management. There is also a need for courses in medical terminology and nomenclature, since many clerical and other supportive personnel (records, admitting and business office) have deficiencies in their area. At least one hospital (Highland) indicated a need for more male nurses, especially in psychiatric wards and alcoholic decontamination wards It was explained that the agitated psychic state of male patients on these wards was often heightened by the presence of female nurses.

It was suggested that more typing courses be made available to secretaries to brush up on their skills. One hospital administrator expressed great satisfaction at the Hostess Training Program at Alameda College, since several of their Dietary Services personnel had undergone the training.

Yet another area of concern was the difficulty encountered by older nurses who have been out of service for several years and want to return to the hospitals These nurses would first have to affiliate themselves with a hospital and then undergo a refresher or brush up type training program. A specific retooling program would have to be tailored to this end, perhaps as an adjunct to the regular nursing curriculum The Women's Re-entry Program and Senior citizens programs now in existence in the District are not designed to handle persons in this category, according to the administrators interviewed

Equipment and Educational Resources Available

All hospitals indicated they had classroom space available as well as audio-visual equipment on hand in the hospital for educational purposes. Most hospitals also had funds available for the purpose of training their personnel.

Recommendations

The Peralta Community College District initiate a study on the feasibility of courses for hospital personnel in the following areas.

Courses leading to BS degree in Nursing

Courses leading to BS degree in Engineering

Courses leading to BA degree in Management

majors in Business

majors in Social Welfare

courses in medical terminology and nomenclature

courses in typing for clerical personnel

retooling for RN's who are returning to hospitals after a long absence

F. PENAL INSTITUTIONS

The penal institutions contacted were the Alameda County Rehabilitation Facility at Santa Rita and San Quentin Prison. Although San Quentin is outside of the Peralta District, I was granted an informational interview on the telephone by the Director of Education at San Quentin. He furnished the following information:

San Quentin: The inmate population of the prison is roughly 3,000 men. The majority of men fall into the 28 to 30 year age group. San Quentin offers its inmates an Associate of Arts degree program by contract with the College of Marin. The cost of the program is $51 per unit of instruction.

Data on Alameda County penal institutions were acquired through telephone interviews with administrative personnel and by visits to the facility.

Alameda Jail: The Alameda Jail's Planning and Research Unit coordinates the Police Academy for Training of Officers through Chabot College.

Santa Rita: This facility normally houses from 1100 to 1200 inmates of which 100 are females (roughly 9%). 80% of the inmates are under 30 years of age.

A crucial problem in offering an educational program to inmatees of Santa Rita seems to be the fact that it is physically located outside of the Peralta District This, according to inquiries made at the district, would not enable the Peralta District to collect ADA for courses taught at the prison. After much negotiating with the chancellor's office and with Master Planning Project personnel, the prison representatives were quoted a price of $36 per hour to pay instructors offering courses at

Santa Rita. Exasperated, the prison representatives appealed to nearby Chabot College, which agreed to offer courses at a little over $13 per hour.*

In general, prison representatives felt that the Peralta District had been most unresponsive throughout the negotiations. Letters written to college presidents were never answered. An "informational report" promised by the District was never received. The prison had indicated that it had money on hand to pay for instructors and travel expenses after having learned of the District's desire of finding "new ways of serving the community" in the April 1974 issue of the District Newsletter. A questionnaire was even distributed to the prisoners to ascertain what classes were most in demand. In all fairness it should be pointed out that the prison already had an officer training program with Chabot College so that communication with that district was already established. It is also possible that Chabot, in speculating on the opportunity to increase their ADA, may have indicated their unwillingness to waive jurisdictional control over the Santa Rita facility. This is, however- at best, conjecture.

Recommendations

1. It is recommended that the district research the possibility of amending present regulations so that ADA might be received for classes taught at Santa Rita, since a majority of its population are former residents of the Peralta District and will most likely return to the area, indeed some of them as students in the District.
2. It is also recommended that a dialogue be initiated between Peralta and the district having jurisdiction over Santa Rita, namely Chabot.

*See Appendix B

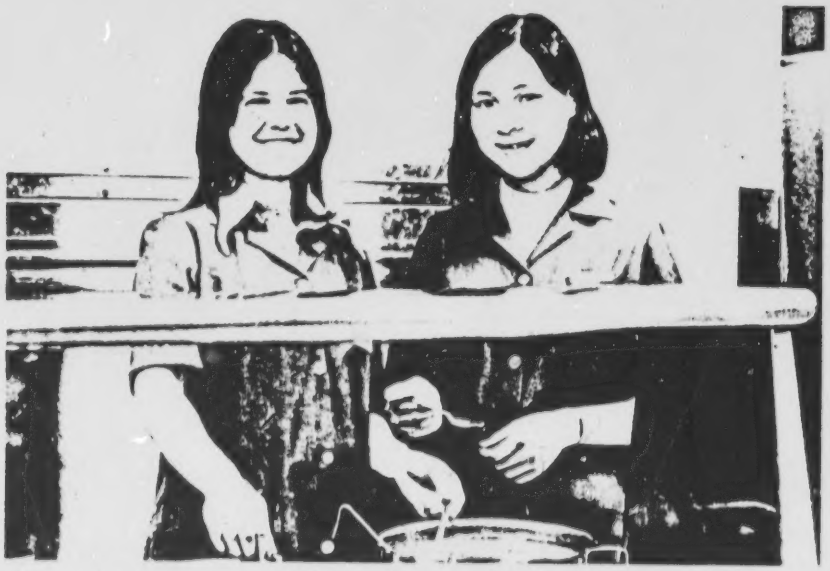
3. If a program is to be considered for the prisoners, relaxation of minimum class sizes will be necessary.
4. Adequate follow-up for all reasonable requests from the community. It can happen that district personnel, in an effort to refer requests to the person or persons who can most effectively respond, become hampered by the machinery of bureaucratic procedure. The group making the request goes away with the feeling they have been given the "run-around". This results in adverse publicity for the district, which can lead to a decrease in potential ADA, vandalism and other negative responses from the community.

Additonal Recommendations

The committee would like to make further recommendations which are global to all emerging groups and should prove of value to the district.

1. A central information center at the district office should be established about specific programs offered under the district and to refer callers to the appropriate persons or divisions under the college.
2. Information from each campus concerning new or proposed programs should be made available to all other campuses for referral purposes and to avoid duplication of programs.
3. Relaxation of minimum class size when for newly established programs.
4. There is a great need for Saturday, week-end classes, or "mini-courses" as well as open or continuous enrollment.
5. Establish a central vocational service which will:
   a) Survey the Bay area job market and provide up-to-date vocational information to personnel on the campuses who are involved in placement, counseling and job-training.
   b) Assist in evaluating job-training programs in terms of obsolescence, modification, phasing out of old and introduction of new programs as related to current and foreseeable future needs in the job market. Use industrial personnel in the evaluation and planning.
   c) Hold regular in-service training seminars for counselors, placement officers and job-related instructors.

DIETETIC TRAINEESHIP PROGRAM INITIATED



Dietetic Trainees, Nikki Kratt (left) and Bessie Chan.

September 17th ushered in a program of Dietetic Traineeship-Preplanned Experience at Providence Hospital.

In cooperation with the University of California at Berkeley Extension Division, the Hospital Food Service Department will sponsor this General Focus, twelve month program designed for two Dietetic Trainees. First students to participate in the program are Nikki Kratt and Bessie Chan.

Upon completion of the course the Dietetic Trainee shall have acquired sufficient knowledge and experience in Food Service Administration and Clinical Dietetics to be able to assume Staff Responsibilities without supervision. This will qualify her for the opportunity to pursue Registration as a member of The American Dietetic Association.

Under the direction of V. McMasters, Ph.D., R.D., the University will provide approximately 187 hours of American Dietetic Association approved class hours, dietetic orientation, seminars, field trips, and group discussions.

Providence Hospital will provide approximately 200 hours of learning experiences in the area of Food Service Administration and Clinical Dietetics. Training at the Hospital will be conducted by Lorraine Olson, R.D., Director Food Service, Therapeutic Dietitians Gayle Kohbod, R.D., Raelee Williamsen, R.D., Ruth Lee, R.D., and Nancy Faulk, R.D.; and Goro Endo, Food Production Supervisor.

APPENDIX B-1

LIAISON

THE OFFICIAL PUBLICATION OF THE ALAMEDA COUNTY SHERIFF'S DEPARTMENT

FRANK I. MADIGAN, Sheriff

VOL. XX NO. 12 DECEMBER 1973

SHERIFF'S SOCIAL SERVICES OFFICE

The Alameda County Sheriff's Department has expanded its rehabilitative services to inmates of its correctional facilities by the development and expansion of the Sheriff's Santa Rita Social Services Office.

A new Social Services Supervisor reporting to the Chief of the Detention and Corrections Division was appointed in the Fall of 1972. Additional Social Services Officers, a full-time Recreation Supervisor, and two clerks were added to the staff this year.

The additional personnel has enabled the Sheriff's Department to offer personal, vocational and educational counseling and assistance to any inmate requesting it in any of the correctional facilities under the department's jurisdiction.

As part of the expanded services, every new incoming Santa Rita minimum security inmate is given an intake interview with a Social Services Counselor as part of his intake procedure prior to moving into a regular barracks or starting a work assignment. The interviewer attempts to determine needs and offer assistance where indicated in the following areas:

1. Personal Counseling and Services. The Social Services Officers are available for counseling and assistance on family problems and any problems caused by the individual's arrest, such as rents due for payment, relatives of friends to be notified of his whereabouts, automobiles left on parking meters or other personal problems concerning the new inmate.

2. Orientation to Santa Rita Services. The new inmate is given a descriptive handout outlining inmate services such as Social Services, school programs, vocational programs, medical-dental programs, drug counseling, etc., available at Santa Rita. Questions are answered and where appropriate, referrals are made. The inmate is also given a copy of the Santa Rita Rules and Information for Inmates.

3. Post Release Planning. The new inmate is given an opportunity to discuss what he plans to do following his release. Particular emphasis is placed on housing, employment, and/or educational plans. If requested by the inmate, follow-up appointments are made with a Social Services Officer to give counseling and assistance in these or other areas of post release planning.

After the intake interviews, the Social Services Officers are available at any time during the course of an inmate's incarceration for personal, educational and vocational counseling, information and assistance as follows:

1. Personal Counseling. In addition to individual counseling on personal and family matters, information about and telephone communication with public and private community agencies such as County Welfare Departments, drug programs, local hospitals, police departments, attorneys, legal aid, etc., as well as calls to relatives and other individuals, is available through a Social Services Officer.

2. Vocational Counseling. Information is provided on employment resources in the San Francisco Bay Area, telephone contacts and, where appropriate, personal interviews held with potential employers and union representatives. Many Civil Service (City, County, State, and Federal) job announcements are available through the Social Services Office. Copies of the various Alameda County Human Resources Agency Employment Newsletters and job listings are also available for inmate use. The Social Services Officers, as Special Deputy Sheriffs, are authorized to transport inmates to outside agencies for appropriate employment interviews and/or testing.

3. Educational Counseling. Santa Rita operates evening adult school classes offering remedial instruction in basic academic subjects, academic and business courses for high school credit and classes in preparation for the G.E.D. (high school equivalency) examination given bi-monthly at a nearby adult high school. Escort and transportation is provided for qualified students to the G.E.D. testing center. Catalogs and application for admission forms are available at the Social Services Office for most East Bay community colleges and state universities. Assistance with academic and vocational planning and transportation, where appropriate, to the school campus for registration is available from Social Services Officers. Information on eligibility and application information and forms for financial aid to college students is also available. Information on Veteran's Administration G.I. educational and other aid benefits to veterans is available.

   Information and contacts with various other public and private East Bay vocational training programs is also available. For disabled inmates, information on eligibility and in appropriate cases, an initial interview with the California State Department of Rehabilitation for vocational retraining and assistance may be obtained.

Assistance in program planning, registration, and Work Furlough Center application to the Sheriff's Departments Study-Furlough program is handled by the Social Services Office. Final selection of study-furlough applicants is made by the Work Furlough Center staff.

The Social Services Office, through the Recreation Supervisor, is responsible for planning and supervision of athletic, recreational, musical, craft and other leisure-time programs for sentenced minimum security Santa Rita inmates. Week-end and evening programs are operated on a regularly scheduled on-going basis and special programs are planned for Holidays. Additional improvements of the recreational facilities are being planned.

In addition to the primary services discussed above, the Social Services Office also offers many subsidiary services to inmates such as assistance with filling out and submitting county parole applications and Work Furlough Center applications, notary public services, at no charge, assistance with property releases, voter registration, and requests for absentee ballots.

The counseling and information services of the Sheriff's Social Services Office are also available to unsentenced medium and maximum security inmates of Santa Rita and sentenced maximum security inmates.

A Social Services Officer also visits the Court House Jail and both the men's and women's Work Furlough Centers to offer counseling and information services to the people in custody in these facilities.

The Sheriff's Social Services Office is designed to give better rehabilitative services to the men and women in custody of the department's Detention and Correction Division facilities and to assist the custodial staff in their contribution to rehabilitative programs and inmate-staff tension reduction.

Evaluation of the program is now in progress to achieve maximum benefit for those needing the services provided which are consistent with the Detention and Corrections Division goals. Included in this evaluation process will be the establishment of career development steps for Social Services personnel under the County Personnel System.

For further information concerning these services, contact the Social Services Office or the Chief of the Detention and Corrections Division, Santa Rita Rehabilitation Center, P. O. Box 87, Pleasanton, California, 94566.

Foregoing article written for Liaison by Mason Layman, Social Services Officer, Detentions and Corrections Division, Alameda County Sheriff's Department.

EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

Task Force Three: Needs of Emerging Groups

Feather River College Report

Prepared by

Della Blust, Library Technician

Committee: Jim Young
Ray Evans
Della Blust, Chairwoman

PERALTA COMMUNITY COLLEGE DISTRICT

EDUCATIONAL SERVICES MASTER PLAN PROJECT

TASK FORCE THREE: NEEDS OF EMERGING GROUPS

FEATHER RIVER COLLEGE REPORT

GENERAL COMMENTS

Many of the statistics presented in this report draw from two valuable general surveys which were done in Northern California: (1) Northeastern California Higher Education Study, prepared for the California Rural Consortium and the Coordinating Council for Higher Education, by Wallace W. Hall, and (2) A Survey of Attitudes toward Higher and Continuing Education in Northeastern California, prepared for the same groups by the Diridon Research Corporation.

Contacting groups of people in Plumas County can be done through the local newspapers which are very well read. The radio station, though it reaches only Quincy, is well listened to as it is our one and only. "Word of mouth" is probably the best communication device, as our communities are so small.

Distances and transportation are mentioned in almost all the reports as barriers to participating in college programs. Here are the statistics on the distances and the population base in each area:

Quincy	4,723	
Greenville	2,121	22 miles from Quincy
Chester	2,104	50 miles from Quincy
Portola	2,759	32 miles from Quincy

Greenville and Chester are 25 miles apart; Portola and Chester are 82. The roads are mountain roads and can be icy and snowy from November to March. Seventy percent (or 8,364) of the population is classified as rural by the 1970 census. As a county average there are only 5 people per square mile. We certainly are a prime prospect for alternative delivery systems!

The lack of a Dean of Instruction appears as a problem in several areas. Most of the strides we have made thus far in reaching our Plumas County emerging groups has been through grant-funded programs. Many of the ideas for programs presented in this report would be dependent on grants for funding, as so little is available here. There is no one here presently with time to write grants. Mr. Charles Peterson as half-time Interim Coordinator of Instruction is simply too busy. It has been suggested that an ad hoc committee take over the

responsibility of aiding faculty members who have ideas for grants in the writing and preparation of them. This would fill in, at least temporarily. It also appears that we have "lost" two grants this year because we do not have a full-time Dean of Instruction to administer the programs requested.

Included in this report at the following "emerging" groups:

SENIOR CITIZENS	p. 2
NATIVE AMERICANS	p. 5
BLACKS	p. 7
WOMEN	p. 9
SEASONALLY UNEMPLOYED	p. 11
APPENDIX	
FRC Senior Citizen Letter	p. 1
FRC Women's Outreach Questionnaire	p. 3
Monthly Employment: Quincy	p. 5
MDTA Course Report	p. 6

SENIOR CITIZENS

This is a traditionally neglected group which emerges in Plumas County as a major population group. According to 1970 Census figures, 1,234 persons in Plumas County are over age 65; this is 10.6% of the total population (11,707). Dropping to age 60, the number is 1,939 persons or 16.6% of the total. Those 55 and over number 2,735 which is 23.4% of our total population. Simply stated, it appears as though our curriculum planning (which to this point has done nothing of special interest for older community members and consequently drawn very few to the campus) has completely ignored almost 1/4 of our county population.

A study, "A Comprehensive and Coordinated Plan for Meeting the Needs of Seniors in Butte, Colusa, Glenn, and Plumas Counties", was done by the Area III Senior Planning Project through a Title II of the Older Americans Act grant. It provides us with some statistical data on the seniors in the County. Plumas County was, incidentally, assessed as the #1 Priority Area for Senior Citizen services by this report.

Of the 1,939 persons over 60, 1,903 reside in the Portola (504), Quincy (766) and Greenville (361) areas. Three hundred and twenty-one of these persons are classed below the poverty threshold, and the study determined income support as a #1 priority item. Transportation was determined as the #2 priority because of mountainous terrain and no public transportation system.

CONTACTS

Contacts with the senior citizen population has been relatively simplified by their recent interest in senior citizen organizations: Plumas County Senior Citizens, Quincy American Association of Retired Persons, Eastern Plumas County Senior Citizens (Portola), and the newly-formed Indian Valley American Association of Retired Persons (Greenville).

BEGINNINGS

The Plumas County Senior Citizens Advisory Commission, which reports to the Board of Supervisors, was formed in February 1974. Mr. Jim Young, a Feather River College instructor, was very active in this organization, and continues to be though his available time is very limited.

Currently in the planning stages is a grant proposal written by the Advisory Commission to provide a mini-bus transportation system with scheduled routes and a provision for dial-a-ride for senior citizens. Mathing funds for this grant will be provided by donations from local businessmen and other fund-raising activities.

Funding has been received by Northeastern California Senior Services Consultants out of California State University, Chico, for work in the Northern rural counties. Mr. Jim Young and Ms. Della Blust have been in touch with them and expect to meet with them and the Plumas County Senior Citizens Advisory Commission in November. Evidently, their services involve information and referral service for senior citizens.

Feather River College very successfullly provided recreational services for Alameda County senior citizens during the summer. Two one-week sessions for Senior Citizens in the Sierras were sponsored. They included living at the FRC apartments, meals on campus, tours to places of interest, easy hikes, swims, etc. Both sessions were full and the response was overwhelming enthusiasm.

Mr. Gerald Holland, a part-time instructor here who was in charge of the summer program above, is currently doing a needs and interests survey (Appendix, p. 1) among seniors through their organizations. He envisions a "class" which would include current events, art and music appreciation, crafts, travelogs, field trips, and information sessions on social security, Medicare, etc.

The Northeastern California Higher Education Council, the consortium of Northern California colleges to which we belong, has just instituted a Task Force on Older Americans. It will be developing programs and writing proposals for their funding for the colleges in the consortium. Their first meeting was in mid-October, but no staff member was free to attend. We hope to be able to get involved.

BARRIERS

(1) Distance and transportation (see general comments)
(2) There is at this time no staff time available to explore this; hopefully some will be made available soon.
(3) The physical barrier of "cardiac hill" to reach the campus
(4) Probably "traditional" college course offerings do no interest this group
(5) The patterns of tradition -- old people don't usually go to school

APPROACHES

(1) Classes in subjects of special interest to older community members.
(2) Classes held in downtown area (like County Library community room, etc.)
(3) If the transportation grant goes through, tie in classes for seniors with transportation schedule.
(4) Classes should be held in Greenville and Portola, as well as in Quincy, as it is doubtful older people would travel that far
(5) In the aforementioned study, 19.4% of the seniors indicated an interest in part-time or full-time employment. Twenty-nine percent indicated they would like to do volunteer work to fill their time. Perhaps the college should be providing some training and background to feed into these expressed needs.
(6) The study offers some possible ideas for programs for senior citizens. The main expressed unmet needs in order are: income, health care, transportation, recreation, friendship, and nutrition. Certainly we should be able to fit into this picture somewhere.

NATIVE AMERICANS

The Native American facet of our population numbers 305 as reported by the 1970 census, which is 2.6% of our total. Approximately 250 live in Indian Valley (Greenville/Taylorsville area which is 22 mountain miles from Quincy). It is estimated that at least 95% are of the Maidu tribe.

Precise statistics on educational and income levels of the local Indian population could not be obtained, but they are, as a group, among our poorest and least educated. The Northeastern California Higher Education Study indicated that minority members are twice as likely to have only finished elementary school.

CONTACTS

Community leaders.

BEGINNINGS

Currently 15 to 20 local Indian students are enrolled at FRC. Smaller numbers have been in the past also, but few have done well here due to their lack of basic skills and our concurrent lack of an effective basic skills program. Hopefully, with the Fall 1974 advent of Ms. Catherine Jones in charge of the Tutorial/Learning Center, basic skills training will be effectively available to them.

Currently in progress is a federally funded welding program of night classes for Native Americans. Twenty-two local Indians are enrolled and most are attending regularly. A local Indian graduate of the earlier MDTA welding program is participating as an assistant instructor/peer counselor.

Ms. Catherine Jones is currently leading a Native American Experience discussion group class for the Indian students that are enrolled here.

A basic skills and vocational counseling program for adult Indian students was proposed this year under Title IV, but was ostensibly turned down because we do not have a full-time Dean of Instruction. This grant was drawn up with the aid of Indian community leaders and would have fulfilled their own estimation of some of their needs.

NATIVE AMERICANS. cont.

BARRIERS

(1) Distance and transportation from Indian Valley (see general comments)

(2) Lack of basic skills to succeed in regular college curriculum. Programming most local Indian students into a full complement of classes without a great deal of support in basic skills and tutoring is simply programming them for failure.

(3) Indians in Plumas County are treated as inferiors by local whites and there is very little racial mixing.

APPROACHES

(1) Classes in Indian Valley area, provide transportation, or reimburse students for commuting

(2) Vocational classes and training

(3) The Indian community has had good communication with the college through Mr. Jim Young and Dean Joseph Brennan's efforts. They have assessed their needs as being: vocational training, basic skills instruction, instruction in the Maidu language, Native American history and ethnic studies, Indian crafts and culture classes. None of these have get been effectively available to them here.

(4) It is an interesting note that evening welding classes have been available here before, but attracted few of our Indian community members, until the Native American welding class was instituted this fall. Perhaps vocational and general classes should be offered especially for Indians; their population group is presumably large enough to support them.

(5) A Rural Outreach classroom (multi-subject labs through independent study) has been established in Greenville on a pilot basis. Some specific recruiting of Indian students has not, but should be, done for this. Basic skills instruction at any level for high school credit is available, as well as college-level individualized study courses.

BLACKS

The U. S. Census reports 200 Blacks in Plumas County, which is 1.7% of our total population. Almost 100% reside in Quincy.

The Northeastern California Higher Education Study indicates that minority group members are twice as likely to have only finished elementary school. The Diridon survey further indicates that Northern California blacks are about half as likely to have finished high school as the Indian population, which puts the Black population at the bottom of the educational totem pole.

No income statistics were available, but Blacks in Plumas County only hold the traditional menial jobs, so income levels must be very low.

CONTACTS

Black community leaders

BEGINNINGS

Nothing has been done to try to reach this ethnic group. Only three local Blacks have attenced Feather River over it's five-year history.

BARRIERS

(1) Quincy's racial orientation on the part of both Blacks and whites is essentially like that of a small Southern town. Indeed, the origin of Blacks in Quincy, and many of the whites, is Southern, as they were brought here during the 20's and 30's to work in the then Southern-owned lumber mills. The races do not mix socially, except in very isolated cases, and whites tend to think there is no race problem as long as the Blacks stay "in their place".

Quincy Blacks are not welcome (by unspoken rule) in places frequented by whites; this attitude carries over to the college campus.

In Plumas County there are no Black teachers or professionals of any kind, nor any Black sheriff's deputies. The only known Black semi-professional is not a local person. There is only one Black-owned business, which is a bar and restaurant for Blacks.

(2) Since job opportunities for Blacks are so limited by tradition in this area, many think even if they had an education it wouldn't help them become adequately employed. Nor are they at all interested in moving out of the area, even for employment.

BLACKS. cont.

(3) There are no known Blacks with professional training in the community available to teach and counsel local Black students.

(4) Presumably many local Blacks have had an inferior educational background to begin with and lack the quality of basic skills needed to succeed in college-level course work.

APPROACHES:

(1) Classes specifically for Blacks, as it is doubtful they would attend general courses even if they were of interest. For example, no local Blacks attend the Black History class which is offered periodically. It is, incidentally, taught by a white person.

(2) Vocational classes and programs specifically for Blacks. The community should be large enough to support them.

(3) In order for them to become employed at new skill levels, groundwork would also have to be done by the college to change local hiring practices, or the college would be responsible for another of society's double whammies for minority groups.

(4) A concentrated effort would have to be and should be made on the part of the college to draw local Blacks into the programs we offer. Coincidentally, we should explore their interests to provide classes especially for them.

(5) The local Black who currently attends Feather River is certain a Black welding class (patterned after the Native American one) in the evening would be successful and an excellent start. Most of the local Blacks work at the lumber mill where welding would be an added skill to make them eligible for job upgrading. He reports, incidentally, that the new mill owners are better about upgrading Blacks.

(6) The hiring of a Black faculty person would undoubtedly be helpful. This is made difficult as most educated, urban Blacks are not interested in returning to a strict segregationist racial environment that ostensibly they have left behind.

WOMEN

A breakout of educational levels by sex for Plumas County was not available. We suspect, however, that rural women in general have a less adequate educational background than men, and than their urban counterparts. Add this to their traditional societal role which remains very static in rural areas, and women emerge as a group in need of special services from a community college if they are to participate at all.

CONTACTS

Women's Clubs and organizations

BEGINNINGS

Our initial appeal to this group was an all-day conference ("Focus on Women") held June 1, 1974. This aroused a great deal of interest in the community and also made the college aware of the feasibility of such programs. The conference was funded by Northeastern California Higher Education Council Task Force on Women. NCHEC is also funding our fall women's program, which is also an experiment in the community outreach system. Five women in the local communities (Chester, Greenville, Graeagle/Blairsden, Portola and Quincy) have been selected as coordinators of the women's programs in their communities. Working under the general supervision of the campus Project Director, Della Blust, they will be taking a needs and interests survey (Appen. p. 3) among the women in their communities. Programs will be presented on the basis of the survey outcome in each town late this fall.

We expect another NCHEC grant to carry us through to December, 1975, with a continuing program of women's courses, workshops, conferences, etc., in each community. We are currently also attempting to identify local women as potential resource persons for some of these programs, as this is much more economical than bringing women leaders up from the Valley or Bay Area.

The college itself is sponsoring it's first women's course this fall, "Survival Techniques around the Home", which is in response to the questionnaire circulated at the June conference. It has been a reasonable success; certainly publicity could have been better.

WOMEN, cont.

In addition, further courses for women are planned, including a women's awareness group and a short-course on women in literature. The college has also requested the results of the women's survey this fall to use in regular and short-course planning in the various communities. The realization of these proposals will depend greatly on the availability of funds for hourly instructors.

The few programs that have been presented and the prospect of more to come, has aroused a great deal of excitement and interest among women throughout the county. With proper location of the courses and good local publicity they should be very well attended.

BARRIERS

(1) Distance and transportation (see general comments)
(2) Responsibiliities of children and home leave many women with little free time
(3) Low self-esteem levels keep many women from entering what they consider to be the competitive situation of college -- they do not consider themselves "smart enough" to do well.
(4) A lack of programs specifically designed for women's interests
(5) A lack of information about the college and its availability to anyone no matter where or when their education was interrupted.

APPROACHES

(1) Continuation and expansion of, and support for, the planned programs for Fall 1974 and 1975.
(2) More classes in the outlying communities; most women just aren't free to travel long distance -- many women will not drive winter's icy roads
(3) More vocational programs for women (secretarial science and general business is really all that is now available).
(4) Development of re-entry program of counseling and peer group support for women returning to school whose education was interrupted by family, economics, etc.

SEASONALLY UNEMPLOYED

In country where lumber and logging and summer tourism are the main sources of employment, the seasonally unemployed are another very visible group poorly served by the college. In January, 1974, the unemployment rate was 18.4% (compared to state average of 7.9%); in August 1974 the rate dropped to 7.9% (compared to 8.2% statewide). This is a typical pattern here over the last 14 years. Unemployment rises as high as 23% in January and dips to as low as 3.4% in August (see Monthly Employment: Quincy, Appen. p. 5).

Thus, our overall average of 10.6% (1973) is "deceiving" as it is the large numbers unemployed from December to April which make the rate near double the national average. It also presents to the college a seasonally available group for classes and vocational programs, hopefully which would enable them to be employed more fully.

CONTACTS

Diane Ferguson, Employment Development Department

BEGINNINGS

A MDTA Log Truck Driver and Heavy Equipment Operator course was held in late winter of 1974 before "the woods opened". All of the 20 enrolled completed the course and 75% were employed (see Appendix, p. 6).).

One of the MDTA welding programs was also held in off-season for many workers and was also very successful (see MDTA data sheet attached).

Funds have been received through CETA for Industrial Maintenance and Heavy Equipment Operator classes which will be held late this winter and early spring.

BARRIERS

(1) The semester system which starts too early and ends too late to tie into the employment pattern. The traditional quarter system ties in perfectly as January, February, March and April are peak unemployment months.

(2) Too few vocational programs are available for skill upgrading to avoid winter layoffs.

SEASONALLY UNEMPLOYED, cont.

APPROACHES

(1) Return to the Quarter system

(2) Our Timber Technician program should offer courses November through April with work experience credit in the summer months. The Forest Service hires many persons for the summer season only. Skill upgrading acquired at FRC during the winter layoff would help these persons achieve permanent full-time status with the Forest Service.

(3) Special courses (academic and vocational) for seasonally unemployed in the winter months.

(4) More vocational programs in general: masonry, electricity, carpentry, plumbing, machine operation and repair, etc. These skills can provide full- or part-time jobs for people in this area. Very few tradesmen have contractor's licenses here and few customers demand them. A person can (and some do) hold a mill job, for example, and do plumbing, electrical, carpentry, etc., on the side or when seasonally laid off. In general our whole attitude toward vocational programs, and facilities and manpower to provide them, needs to be improved.

Dear Senior Citizens:

Please check the following classes or activities you would be interested in attending. Please add any suggestions. Thank you.

Jerald Holland

1. Field trips to: (check all those interested in)
   a. Reno - Cultural; Social Events; Historical sites
   b. Sacramento - Cultural; Social Events; Historical sites
   c. Chico - Cultural; Social Events; Historical sites
   d. Plumas County - Cultural; Social Events; Historical sites
   e.
   f.
   g.
2. Discussion groups (current affairs or ??)
3. Crafts
4. Seminar Discussions led by informed speaker or panel.
   a. Legal advice
   b. Social Security
   c. Medicare - Medical
   d. Fiances
   e. Death
   f. Educational
   g. Consumer Services
   h.
   i.
   j.

5. Art Classes
   a. appreciation
   b. water colors
   c. oils
   d.
   e.
6. Music
   a. Singing
   b. instrumental
   c. appreciation
   d. Fold Dancing
   e.
   f.
7. Physical Fitness
8. Other Suggestions
   a.
   b.
   c.
   d.

FEATHER RIVER COLLEGE WOMEN'S OUTREACH PROGRAM

Feather River College has received funding to present several programs especially designed to meet women's needs and interests in each of our Plumas County communities. Your assistance in completing this questionnaire will assist us in better serving your interests.

1. Would you attend classes or workshops or programs concerning subjects of interest to women? ( ) Yes ( ) No

2. Which of the following interests would you want to explore (check a maximum of 10):

( ) Career Development for Women
( ) Women's Consciousness-Raising Groups
( ) Self-Defense Techniques
( ) Socialization of Women
( ) Women in Literature
( ) How to Eat Better for Less
( ) Living With Teenagers
( ) Women's Role in the Local Community
( ) A Woman's Place in a Man's World
( ) Women as Consumers
( ) Leadership Training for Women
( ) Your Child and the School System
( ) The Church and Contemporary Woman
( ) The Role of Women Through History
( ) New Developments in Nutrition
( ) Women as Wives and Mothers
( ) Political Action for Women
( ) The Working Woman, Her Job and Family
( ) Women and Men -- Freedom and Interdependence
( ) Women and Sports (exploring and creating athletic activities)
( ) Women in Transition (entering marriage, motherhood, widowhood, divorce, retirement, work, education, and when your children leave home)
( ) Expressing Yourself in Home Planning and Decorating
( ) The Woman's Arts (needlework, quilting, macrame, weaving, etc.)
( ) Pre-Natal Development and Infant Care
( ) Women's Rights and the Law (divorce, welfare, working, etc.)
( ) Financial Survival (budgets, insurance, taxes, property)
( ) Survival Techniques Around the Home (simple plumbing, electricity, carpentry, etc.)
( ) All
( ) Other _____

( ) Women as Friends
( ) Women's Body and Health
( ) Non-Sexist Child Rearing
( ) Women and Their Cars
( ) Body Awareness and Movement
( ) Concerns of the Older Woman
( ) Women's Sexuality
( ) Women Growing Their Own
( ) Gourmet Cooking
( ) Women and Drugs and Alcohol
( ) Women and Welfare
( ) Family Planning
( ) Parent-Child Relationships
( ) Women and Mental Health
( ) Belly Dancing
( ) Foods from the Wild
( ) The Single Parent

(OVER)

Page 2

3. In which community(s) would you attend these programs?
( ) Chester ( ) Greenville ( ) Quincy
( ) Graeagle/Blairsden ( ) Portola

4. What time of day would you prefer?
( ) Evening ( ) Afternoon ( ) All Day Sessions

5. Which day would you prefer?
( ) Mon. ( ) Tues. ( ) Weds. ( ) Thurs. ( ) Fri. ( ) Sat.

6. Which of these might be a reason for you to attend these programs?
( ) Self improvement ( ) Gain skills for a job
( ) Complete an AA degree ( ) Complete courses for transfer

7. Age: ( ) 17-29 ( ) 30-39 ( ) 40-49 ( ) 50+

8. Marital Status: ( ) Single ( ) Divorced ( ) Separated
( ) Married ( ) Widowed

9. Ethnic Background: ( ) American Indian ( ) Black ( ) Chicano
( ) Asian ( ) Caucasian ( ) Other

10. Have you:
Completed high school ( ) Yes ( ) No
Completed college ( ) Yes ( ) No
Completed some college ( ) Yes ( ) No
Other

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11. Are you employed? ( ) Yes ( ) No
( ) full-time ( ) Permanent
( ) part-time ( ) Temporary or Seasonal

12. What is your annual family income?
( ) 0 - $2,000 ( ) $7,001 - $9,000
( ) $2,001 - $5,000 ( ) $9,001 - $12,000
( ) $5,001 - $7,000 ( ) Over $12,000

THANKS!

Monthly Employment
Quincy Labor Market Area, 1960-1970
(employment, unemployment, unemployment rate)

		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1960	Emp.	4,125	4,100	4,175	4,475	4,700	5,250	5,400	5,350	5,375	4,800	4,550	4,275
	Unemp.	975	1,200	1,225	900	600	375	275	325	275	325	700	1,000
	Unemp. rate	19.1	22.6	22.7	16.7	11.3	6.7	4.8	5.7	4.9	6.3	13.3	19.0
1965	Emp.	4,275	4,425	4,525	4,700	5,000	5,350	5,575	5,625	5,500	5,125	4,950	4,550
	Unemp.	1,225	1,150	1,050	975	650	375	275	200	175	175	350	775
	Unemp. rate	22.3	20.6	18.8	17.2	11.5	6.6	4.7	3.4	3.1	3.3	6.6	14.6
1966	Emp.	4,275	4,250	4,350	4,725	5,000	5,300	5,575	5,550	5,350	5,075	4,775	4,350
	Unemp.	1,025	1,150	1,150	700	375	300	250	250	225	225	500	1,000
	Unemp. rate	19.3	21.3	20.9	12.9	7.0	5.4	4.3	4.3	4.0	4.2	9.5	18.7
1967	Emp.	4,250	4,225	4,275	4,500	4,825	5,250	5,750	5,825	5,700	5,475	5,275	5,025
	Unemp.	975	1,125	1,075	1,075	800	525	350	300	250	225	375	650
	Unemp. rate	18.7	21.0	20.1	19.3	14.2	9.1	5.7	4.9	4.2	3.9	6.6	11.5
1968	Emp.	4,475	4,400	4,475	4,700	5,025	5,300	5,575	5,625	5,475	5,300	5,075	4,725
	Unemp.	750	1,050	900	675	375	275	225	200	175	200	400	675
	Unemp. rate	14.4	19.3	16.7	12.6	6.9	4.9	3.9	3.4	3.1	3.6	7.3	12.5
1969	Emp.	4,325	4,325	4,375	4,900	5,050	5,475	5,800	5,725	5,700	5,000	4,825	4,625
	Unemp.	850	950	850	750	350	325	250	225	225	225	350	675
	Unemp. rate	16.4	18.0	16.3	13.3	6.5	5.6	4.1	3.8	3.9	4.3	6.8	12.7
1970	Emp.	4,200	4,000	4,150	4,500	4,725	5,075	5,375	5,425	5,375	4,900	4,650	4,500
	Unemp.	850	1,025	1,050	775	400	325	300	225	250	250	525	875
	Unemp. rate	16.8	20.4	20.2	14.7	7.8	6.0	5.3	4.0	4.4	4.9	10.1	16.3
1971 (prelim)	Emp.	3,950	4,050	4,075	4,375	4,550	4,850	5,275					
	Unemp.	1,075	1,025	975	725	550	500	300					
	Unemp. rate	21.4	20.2	19.3	14.2	10.8	9.3	5.4					

M. D. T. A. COURSES

FEATHER RIVER COLLEGE
1973-74

COURSE	Number Enrolled	Number of Applicants	Veterans	Minority Students	Formerly on Welfare	Off Welfare	Now Employed Training Related	Now Employed Not Trng. Related	Not Working	%age of Completion	%age in Jobs
Log Truck Driver and Heavy Equipment Operator	20	34	16	4	7	5	13	1	6	100%	75%
Welding Class No. 1 and No. 2	40 (20 each)	77	39	3	7	7	27	8	5	100%	87%

EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

TEAM IV: MANPOWER NEED PROJECTIONS

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Submitted November 8, 1974

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November 8, 1974

Statement of Purpose:

Task Force #4 was asked to survey manpower needs anticipated in the next few years by representative business, industrial labor, public agencies, and health/human service organizations. Particular attention was directed to areas of emerging needs in technical, para-professional, and service occupations.

Methodology:

The following methods were used in collecting data for this report:

1. State Employment Development Department Research Division (EDD) (Publications and personal contact) Please see Bibliography
2. Peralta Manpower Needs Survey (MNS)
3. Peralta Program Instructor Projections (PIP)
4. United States Department of Labor (USDL)

Both EDD and USDL representatives were emphatic in stating that all projections can be no more than suggestive. Apart from the validity of the predictive tools themselves, the number of future conditions for which changes cannot be anticipated renders projections fallible. All projections are based on the assumption that current conditions and trends will not change radically. In fact, such realities as inflation/depression, the energy crisis, changes in population growth, legislative actions which change the level of government activity in target occupations can have drastic effects on short-term and long-term manpower demands. Since all of these illustrative items are currently realities in our picture, and since both EDD and USDL projections are based on material gathered at some earlier time, it is clear that we have here nothing more than everyone's best guess. Beyond this general cautionary statement, each estimate deserves a word of description.

1. EDD projections are based on data supplied to EDD by employers. The projection for any one occupation is based on reports received in 1972. Those used here are the ones derived from EDD research in this locality. Furthermore data regarding occupations under EDD reflect conditions relative to levels of training and education which are not in all cases the same as PCC levels, and therefore, in some cases EDD projections for a given program differ from those of PIP.

2. The MNS questionnaire developed by a sub-committee was sent to 300 local employers selected from the Chamber of Commerce Directory and from employers recommended by committee members to provide a sample of (1) employers with 70 or more workers and (2) employers with a broad range of significant occupations. To sample certain fields, for instance Research and Development, firms were included despite a smaller employee force. The ratings of demand derived from MNS forms were reported only when more than one employer indicated use of a person with particular occupational training. The return in one month from this mailing was 78 forms; thus many occupations could not be rated through failure of employer return.

Response Rate by Class of Employer Operation

	#mailed	# returned	% responding
Contractor	16	2	12.5%
Distributor	5	1	20.0%
Newspaper/Publ.	3	1	33.3%
Manufacturer	122	38	31.1%
Services	80	23	28.8%
Research & Dev.	4	3	75.0%
Retail	26	4	15.0%
Transportation	18	3	16.6%
Utilities	4	2	50.0%
Wholesalers	11	0	0 %

However, of those responding (78), about one-third desire contact with the District about their training and skilled employee needs. These employers are being contacted by those administrators (dean, assistant dean or divisional chairmen, on the campus that holds the greatest number of training programs related to the occupational structure of each employer) most ready to develop the desired services. In addition, many will be contacted by the Merritt Coop Educ. Director, Carolyn Schuetz, with reference to this aspect of our educational program, both for their current employees interested in further training and for placement possibilities for current Peralta students. Thus the project may have more than information gathering implications of the one-shot variety; we may further extend our intent to provide feedback for current programs via contacts with larger employers as well as use their needs as a guide to new programs.

3. The PIP rating may be based on one or more instructor/program head estimates. A staff member was contacted from each site for each occupation or group of occupations for which training at that site is given. The program director was asked to use his current knowledge of the field and of the placements students have found in the last few semesters.

4. USDL projections represent the best judgment of two committee members who studied the material and discussed projections with USDL representatives. This is difficult material to use in extrapolating to community college levels of training, since basically it emphasized the projections for skills requiring four or more years of higher education. The aim was the best possible estimate that could be derived from knowledge of the power of the program to lead to jobs at the two-year level and/or to training during or after some time on the job. USDL data are discussed in detail in Appendix A.

Finally, from the MNS forms returned, from college staff working on program development, and from strong indications in the USDL materials and EDD publications,

two lists of occupations were prepared, and a rating of the demand for each occupation from each informational source was made by those who had collected relevant information.

Findings:

The results of the research and rating activities are summarized in Tables 1 and 2. Those occupations for which training is offered in current PCC programs appear in Table 1, while those occupations for which demand conditions make program development promising are shown in Table 2. In Table 1, the last column indicates the district site(s) at which training is currently offered, while in Table 2 the site at which plans are being made, if any are, occupies that column.

In both tables, the rating system showing the estimate of demand derived from each data source has the following set of meanings:

ND No data is available.

++ The level of demand is high or increasing rapidly.

+ The level of demand is steady and of moderate level.

+/_ The level of demand is matched with the present level of supply from training sources; this suggests that the number of jobs is not increasing, and that new openings result primarily from retiring workers.

- The supply exceeds the demand; demand may be declining.

-- There is no effective demand for new entrants.

Table 1:

Estimates of Manpower Needs - East Bay Area and Plumas County

for Occupations Served by PCC Current VE Programs

Occupations Grouped by Area	Source of Estimate EDD	MNS	PIP	USDL	Program Site(s)
1. Agriculture & Natural Resources					
Wildlife Technician	ND	+/-	ND	ND	FRC
Ornamental Horticulture	+	ND	++	ND	Mer
Timber Technician	ND	+	++	+	FRC
Wood Products Technician	ND	+	ND	ND	FRC
2. Architecture & Environm Design					
Architectural Technician	-	ND	+/-	+	Lan
Engineering Technician	-	ND	+/-	+	Lan
3. Business and Management					
Bookkeepers	+	ND	-	++	All PCC
General Business	-	ND	ND	ND	All PCC
Banking and Finance	+	++	++	ND	Mer
Banking Occupations (Teller)	+	ND	+	++	EBSC
Management/Superv. (Bus Ad)	+	++	+/-	ND	NP, Mer, Lan, FR
Transportation & Traffic	+	+	+	+/-	Mer
Real Estate	+/-	+	+	+	Mer
Stenographer)					
Secretary)	+	++	+	++	All PCC
Grocery Checking (Cashiers)	-	+/-	-	++	NP
General Clerical (Clk/Typ)	+	ND	+	++	All PCC, EBSC
Medical Clerical Occupations	+	ND	+	++	EBSC
Typing, Off Prac/Mach Trg	+	ND	++	+/-	All PCC
Supervision, Indust. Mgt. (Foreman)	+	++	+	+	Lan, Mer
Labor and Urban Studies	ND	ND	ND	ND	Mer

ABBREVIATIONS:

EDD	Employment Development Department
MNS	Manpower Needs Survey
PIP	Peralta Instructor's Projection
USDL	United States Department of Labor
EBSC	East Bay Skills Center

SYMBOLS:

ND	No Data
++	High Level of demand or increasing
+	Moderate level of demand
+/-	Balanced supply and demand
-	Less demand than supply or declining
--	No demand: All systems stop!

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Table 1 - continued

Occupations Grouped by Area	Sources of Estimates EDD	MNS	PIP	USDL	Program Site(s)
4. Communications					
TV & Radio Communications	+/-	-	+	- -	Mer
CATV Maint & Production	+	ND	++	ND	EBSC
Public Contact Representative	ND	ND	++	+	Mer, COA
Journalism	+/-	+	+	-	Mer,Lan
5. Computor & Information Science					
Data Processing	+	++	-	ND	Lan,Mer,NP
Key Punch Operator	+	++	+	- -	Mer
Programmer	+	+	+	ND	Mer
6. Education					
Instructional Assistants	-	ND	-	-	Mer
Recreational Leadership	-	+	+	ND	FRC,Mer
Special Ed Tech (Handicapped)	ND	ND	+	ND	COA
7. Engineering and Related					
Air Condit & Refridg	+	+	ND	++	Lan
Air Frame Mechanic	-	ND	-	++	EBSC
Air Frame & Power Plant	+	ND	+	++	COA,EBSC
Aircraft Power Plant	+	ND	+	++	COA
Auto Body & Fender Repair	+/-	ND	+	+	COA
Auto Mechanic	+/-	+/-	+	+	Mer, COA, EBSC
Bus Equip Technician	-	+	++	++	COA
Cable T.V. Tech.	++	ND	++	ND	EBSC
Chemistry Technician	+	+	+	ND	Mer
Diesel and HD Mechanic	+	ND	ND	++	COA
Drafting	+/-	++	ND	+	Lan, NP, EBSC
Flight Operations and Pilot	-	+/-	ND	++	COA
Electrical Occupations	+	+	ND	+	Lan
Electronic Technician	+/-	++	ND	++	Mer, Lan
Engineering Occupations	-	ND	++	ND	EBSC
Engineering Tech (Civil)	-	++	+	+	Mer (Inactive)
Traffic Engineering	ND	ND	ND	ND	Lan
Industrial Engin Tech	-	+	ND	ND	Lan
Industrial Maintenance	-	ND	+	ND	Lan
Machine Shop	+	++	++	+	Mer,Lan, EBSC
Metallurgy	-	+	ND	ND	Lan
Plastics Occupations	+	+/-	+	ND	Lan
Quality Control & Indust. Eng.	+/-	++	ND	+	Lan
Radio & T.V. Service	+/-	-	-	+	Lan
T.V. Eng (Brdcast Tech)	ND	ND	ND	+/-	Lan
T.V. Cable Lineman/Installation	+	ND	++	ND	EBSC

Table 1 - continued

Occupations Grouped by Area	Sources of Estimates EDD	MNS	PIP	USDL	Program Site(s)
8. Fine and Applied Arts					
Communication Graphics	ND	ND	--	+	Lan
Interior Dec Design	ND	ND	+	-	Lan
Graphic Arts Occupations	-	++	+	--	Lan
Photography, Comm/Indust.	-,-	+/-	ND	--;+	Lan
9. Health Services					
Dental Assisting	+	+/-	++	++	COA
Environmental Health Tech	ND	+/-	ND	++	Mer
Inhalation Therapy	-	+/-	-	++	Mer
Licensed Voc. Nursing	++	+	++	++	Lan, EBSC
Medical Lab Tech	ND	+/-	+	ND	Mer
Nurse's Aide	ND	+	+	++	Mer
Nursing, RN (AA)	-	++	++	+	Mer
Optometric Ass't	ND	+/-	-	++	Mer
Radiologic Tech	+/-	+/-	+/-	+	Mer
Medical Assistant	+/-	+/-	++	++	COA
10. Home Economics					
Comprehensive Homemaking	ND	ND	ND	ND	Mer, NP
Nursery School Ass't	-	+/-	+	ND	Mer
11. Law					
Legal Assistant	ND	+/-	ND	ND	Mer
12. Public Affairs & Services					
Administration of Justice	++	+	+	++	MER, FRC
Community & Social Services	-	+/-	+/-	++	Mer
Park Technician	ND	+/-	ND	ND	FRC
Fire Science	+	+	--	++ *	Mer, FRC
Occupational Safety and Health	ND	++	+	ND	Mer
13. Commercial Services					
Cosmetology	+	_	+/-	++	Lan
Dry Cleaning	+	--	-	ND	Lan
Fashion Arts	+	-	+	+/-	COA
Hosting Ser. (Waitr/rs)	+	ND	+/-	+	Lan
Baking	+/-	+	+/-	--	Lan
Cooking	+/-	+	+/-	+	Lan, EBSC
Shoe Rebuilding	-	--	+	--	Lan
Upholstery	+	+/-	ND	+/-	COA
Wood Tech/Mill & Cabinet	-	ND	ND	ND	Lan

*outside cities; cities = -

Table 1 - continued

Occupations Grouped by Area	Source of Estimate EDD	MNS	PIP	USDL	Program Site(s)
14. Apprenticeship only					
Building & Construction Trades					
Bricklaying	+/-	ND	ND	+	NP
Carpentry	+	++	-	+	Mer,Lan
Cement Mason	+/-	ND	ND	++	Lan
Construction Tech	+/-	++	ND	ND	Lan
Glazing	+/-	ND	ND	++	NP (Temp Suspended)
Lathers	+/-	ND	ND	++	NP (" ")
Painting/Decorating	+/-	ND	ND	+/-:++	NP
Plastering	+/-	ND	ND	+/-	NP (" ")
Pre-appren Indust Tech	+/-	ND	-	ND	Lan
Sprinkler Fitter	+/-	ND	ND	+	Lan
Construction Electrician	+/-	ND	ND	++	Lan
15. Industrial Trades					
Automotive Painter	+/-	ND	ND	+	COA
Heavy Duty Trucking	+/-	ND	ND	+	COA
Ironworking	+/-	ND	ND	+	Mer
Molder/Coremaker	+/-	ND	ND	+/-,-	Lan
Ornamental Metal Fab	+/-	ND	ND	+	Lan
Production Machines Oper.	+/-	ND	ND	+	EBSC
Sheetmetal	+/-	ND	+/-	+	Lan
Tool and Dye	+/-	++	ND	+/-	Lan
Welding	+	+	++	++	FRC,Lan,Mer,EBSC
Electrical Motor Repair	+/-	ND	ND	ND	Mer
Operating Engineers	+/-	ND	ND	++	Lan

Certain trends do emerge from this table: (1) within many occupational areas, one or more particular specializations may be in high demand, with little more than replacement required in other specializations; (2) in some areas, it is simply impossible to arrive at any assessment of demand and the reasons for this difficulty are various.

High or rising demand exists for:

(1) Agriculture and Natural Resources: Timber Technician

(3) Business and Management: Banking and Finance
Banking Occupations
Management and Supervision
Stenography
General Clerical

(4) Communications: Closed Circuit TV Maintenance and Production

(5) Computer Sciences: Data Processing
Programming

(6) Education: Recreational Leadership

(7) Engineering and Related: Air Conditioning and Refrigeration
Cable TV Technician
Business Equipment Technician
Chemical Technician
Electronic Technician
Machine Shop

(9) Health Services: Dental Assisting
Licensed Vocational Nurse
Registered Nurse

(12) Public Affairs and Services: Administration of Justice

(15) Apprenticeship: Carpentry
Welding

Low or decreasing demand, and thus no clear promise for career development, exists in the following areas:

(4) Communication: T.V. and Radio Communications (production)

(6) Education: Instructional Assistants

(14) Commercial Services: Shoe Rebuilding

In those areas for which ND appears in three or four of the estimates, it is extremely difficult to make any estimates for the future. However, it may be useful to look at the most likely reasons, so these occupations have been grouped by simple inspection under possible reasons:

Very new occupation:
May or may not be viable at two-year training level

Special Education Tech
Environmental Health Tech
Park Tech
Urban Studies

Older Occupation: displaced by specialization or new alternative processes

General Business
Wood Technology - Mill and Cabinet

Content of training unclear with reference to employer needs:

Public Contact Representatives (Was this receptionist?)
Economics (What do two years give in the way of skills?)

Reason not visible: (None of the above)

T.V. Engineering and Broadcast Tech
Traffic Engineering
Medical Lab Technician
Nurse's Aide

The list of demand for occupations not currently served by PCC programs is given in Table 2. The level of demand is indicated by the same system of symbols; no attempt was made to list occupations for which the demand picture was poor or unclear.

Table 2

Estimated High Demand for Occupations NOT Served by PCC Programs

Occupations Grouped by Area	Sources of Estimate EDD	MNS	PIP	USDL	Planning Site(s)
3. Business and Management					
Bank Clerk & Data Proc Wrkr				++	EBSC
Housing & Property Management		+			
Insurance		++	+		COA
Mortgage Banking		+			
Marketing - Retail Trades		++		++	
Hotel and Motel Management		++		++	FRC
7. Engineering and Related					
Blueprint Reading		++			
Chemistry Equip Tech		+			
Chemistry & Indust Engin		++			
Heavy Equipment Operation & Repair		++			FRC
9. Health Services Occupations					
Biology Lab Assistant		+			
Nutrition		+	++		Mer
Surgical Tech		+		++	
10. Home Economics					
Homemaker Aide			++		
12. Public Affairs & Services					
Fire Control (Forest)		+			FRC

NOTE: These are Plumas County special needs.

Hotel and Motel Management
Heavy Equipment Operator and Repair
Fire Control (Forest)

No data was available from EDD at this time for these occupations.

The occupations shown on Table 2 are those for which high future demands are estimated but which are not currently being served by PCC programs. For six of these occupations, program planning is already underway at one site as indicated in Table 2. Programs could be planned for the other occupations without the addition of many staff members.

Discussion:

Certain problems arise in the use of the material contained in this report. Aside from the tentative nature of the projections discussed above, does a relatively 'poor' outlook for an occupation suggest that the college(s) should immediately begin to phase out a program? Does a lack of information indirectly suggest a lack of demand? What is "replacement level" in an occupation? And worst of all, how do we calculate supply? How do we adjust the size of our programs to the demand-and-supply in order to serve interested students without creating supply problems from which they will suffer after an investment in training?

The committee at one point considered a fifth estimate of demand: placement history of the students as indicated by the state forms demanded of PCC each year. Upon investigation, it was discovered that though these figures are given the state for each occupational program by each college every year, no college has any estimate of the validity of the figures it sends. Moreover, the state office that requests them knows there is no good way for any college to make accurate estimates.

There is currently a system for student follow-up (SAM - Student Accountability Model) prepared by a group of colleges, of which Peralta has been a participant through the membership of Herb Schlackman. DeAnza will be trying out the system this spring, and it could be in use by Fall, 1975 at Peralta should we make the commitment to use it. Such a systematic approach to following up on students who leave or graduate could be a

valuable source of immediate feedback to program designers and teachers, for both revision of old and development of new occupational programs.

On a qualitative level, not adequately reflected in the estimates recorded in Table 1, the committee found the following generalizations suggested by comments of more than one resource person:

(1) Employers in nearly every field need upgrading and retraining programs for their current work force, and the need for these is as great as, or greater than, the need for entry-level employees of specified skill levels. If the community colleges respond actively to this need, they may also learn much about the re-designing of their basic programs so that new entrants to the work world do not have obsolete skills. Such upgrading and retraining is often a response to technological developments, though it may also be the result of reorganization in business and industry as a consequence of technological change.

(2) On the MNS forms, much interest was expressed in management-type seminars (on such matters as decision-making, careers for women, human relations, job attitudes) as well as for specific mini-courses geared to particular industry needs.

(3) Many employers mentioned basic skills (in math, written and oral communication) as a frequent defect in the functioning of their current employees. Should the PCC develop good corrective programs in these areas which could be offered in various places in the community, it is likely that there would be a large market of students whose employers would welcome making arrangements for the training.

(4) There is some evidence that training programs formerly paced for two-years of study could be offered in a one-year core program, with a variety of optional specializations for those who wish further study. The student might move into the job market at the end of core-certificate training, or remain for training in a specialization currently

in high demand. This sort of program could be most effective in serving both students and employers if materials could be developed which permit self-pacing.

(5) National statistics suggest that between now and 1985 approximately three-fourths of all job openings will not require four or more years of college. The implication of this for an AA or certificate-level workers is not clear, will they be shunted aside because there is a backlog or people with four or more years of college? Will they benefit by being desirable because their level of expectation for income is lower? Furthermore, the outlook for all jobs over the next ten years shows a downward trend.

(6) There is a tendency in many states including California to establish licensing requirements for many more occupations. This has both positive and negative implications for existing community college programs. On the one hand, it means the criterion for working will be performance or competence rather than simple completion of a training program. On the other hand, licensing or certification generally requires continuing education for upgrading of skills, a fact which results in a demand for kinds of training and educational resources which community colleges are well equipped to provide. This trend is already having visible effects in several of the occupational programs. For example, in the field of social services, there is a growing demand for training programs for persons working with the aging, for administrators of homes for developmentally disabled and the mentally ill, for persons working with drug and alcohol abusers. Also growing is pressure to offer appropriate educational programs for the aging, the physically disabled and handicapped, foster parents, etc. This trend is not observed solely by social services, but also by the FACS program, health occupations, etc.

Recommendations:

More flexible and responsive ways of ascertaining the "state of an occupation" are necessary. The committee strongly recommends that Peralta develop as rapidly as

possible several systems for collecting information annually that could make our programs more accurately tailored to deliver competent skills to the employer and thus a dependable income to the student.

Specific steps could be taken as follows:

1. Conduct a systematic annual review of local manpower needs as well as government agency information on the current job picture and projections for the future in order to provide a permanent flow of information relevant to program revision, reduction, and creation.
2. Commit the District to using SAM (STUDENT ACCOUNTABILITY MODEL) for processing and analyzing information from ex-students on their job placements and program suggestions.
3. Set up some internal organization within the District to review field demands and program offerings in occupational areas experiencing rapidly changing technology. Such an organization would alert the program staff to anticipated needs for change. This could be a charge to the instructors to prepare annually a state-of-the-occupation report.
4. Establishing and maintaining active technical advisory groups in various occupational fields to insure regular input is made on curricula at the college level from prospective employers of our students or graduates.
5. Provide District funds for moving toward decentralized delivery of occupation-relevant offerings to fit the needs and constraints of both employers and present or potential employers.
6. Study implications of Table 2 with the expectation of planning to implement new courses in areas of high demand by fall of 1975.
7. Establish a permanent District planning and development office.

APPENDIX A

Framework for Considering U.S.D.L. Projections

Chris Hadley

Adequacy of Information

The subcommittee responsible for gathering nationwide manpower projections has attempted to follow Arnold & Ferguson'-(1973) advice to educational planners "...to use the most current material available, to study the methods and source of its derivation, and to be familiar with the assumptions on which it is based." Extensive research in the libraries of U.C., Berkeley, and the Peralta Colleges revealed the paucity of projections for nationwide labro supply and demand: the U.S.D.L. was the only printed source discovered for such projectsions, and among many U.S.D.L. publications, only the Occupational Outlook Handbook the The U.S. Economy in 1985 were found to provide projections for specific occupations. These two sources cover about 800 of the most common occupations in the country, but this does not include either all the occupations for which training programs exist in the District or all of those occupations which have promising growth prospects. Finally, in most cases the U.S.D.L. is able to estimate only the employer demand but not the potential supply of trained entry-level employees for these occupations. Labor supply projections are available only for those professional-level occupations for which sufficient information exists on the number of training programs and their training potential (=maximum number of graduates) over the next eleven years. Requests to the regional U.S.D.L. office in San Francisco, and to the national office in Washing-

ton, D. C., for more information were unsuccessful. Hence we have concluded that, despite its limitations, we have the most current national material yet published.

Reliability of National Projections

U.S.D.L. economists state that their projections are based on the assumption that past economic and social trends will continue in the near future. Thus major cataclysmic changes, such as prolonged depression, war, revolutionary technological or social changes, might well result in quite different realities. Nevertheless, manpower experts Levitan, Mangrum, and Marshall (1972, p. 84) conclude that "National projections do not provide a blueprint of the future, but they do..... provide adequate guidance for 10 to 15 years ahead on growth potential, employment needs, and quantitative educational requirements." These independent authorities advice that, although many organizations and individuals engage in such projections, "the work of the BLS (Bureau of Labor Statistics, U.S.D.L.) is the soundest available." They indicate that local and regional levels of demand projection "are more difficult."

Our experience tends to support these conclusions, and thus leads us to feel that the broad trends within the matrix of occupations in the U.S. economy are likely to continue regardless of fluctuation in the level of economic activity. That is, the absolute numbers in any year will be affected by the level of economic activity, but the relative demand of most occupations will remain constant. This fact alone should provide some general guidance for the district in its task of meeting student and community needs for occupational skills.

Having general guidelines is better than having no guidelines at all, and it is important not to overemphasize the limitations of available data; it is equally important to remain flexible by assessing later data on a continuing basis in order to meet changing conditions not anticipated by these projections.

Although the District cannot with certainty rely on the U.S.D.L. projections for specific occupations, the fact that most broad trends in industries and job families are long-term, and have continued steady for some time, seems to justify some faith that such trends are likely to continue present directions for the next five to thirty years. As an illustration, Neal H Rosenthal (Assistant Chief, Division of Manpower and Occupational Outlook, B.L.S.) has recently written:

> "Most long-term trends in the employment of white-collar, blue-collar, service and farm workers are expected to continue over the next dozen years, but some important changes will occur in the mix of occupations within these broad categories.....The spread of the computer will continue to be a notable example of this. Also, differences in industrial growth will boost some occupations (for example, those in the health field)....."

Employment Growth Fields

Rosenthal and the U.S.D.L. predict that employement growth will be greatest among professional and technical workers. They single out, in addition to professional data processing and health workers, manpower in environmental protection, urban renewal, and mass transportation. In all these fields, what appears to lie ahead is extensive differentiation of kinds of occupations within a broad social task or activity. Designing

training programs for such emerging occupations is complicated by the difficulty of articulating with as yet unsettled industrial and civil service hiring patterns. For instance, employers may choose to upgrade current employees through limited additional training, rather than to hire community college graduates who lack job experience. Good examples of this problem are seen in such fields as environmental protection and legal assisting, both of which have been tentatively developed at PCC sites.

The next-fastest-growth occupations are clerical workers, service workers, and state and local government workers. Among service workers, growth will be most rapid in protective (including law enforcement), paraprofessional health, and some personal and food service occupations.

Finally, inspection of the Occupational Outlook Handbook in Brief reveals rapid growth predictions for many mechanic, repair, and construction trades, as well as for engineering and science technicians and workers in air transportation. These are only some examples of the broad categories of occupations which are worth serious consideration for program development; there are many others to be found in the Handbook. The District's choice of programs for development, within the demand framework, should be contingent upon a number of other factors.

Additional Data, Summarized

Data are summarized here in a format similar to that used earlier: Table A contains programs already offered by the district colleges, while Table B contains occupations of unusually high demand which are not targets of current PCC training

efforts. The symbol system of relative demand is the same, although no occupations of less that good demand were included in Table B and those for which U.S.D.L. data was completely given earlier do not appear in Table A. These tables contain additional material for those occupations for which it was available.

In Table A, Column 2 contains existing indications of the B.A./B.S.-or-better level of training when this is an important factor in the demand picture. As indicated earlier, when demand is high for people with 4-or-more years of training, a paraprofessional level may develop, but it may or may not be in sight at this time. However, students knowing they can take four years of training may not be heavily influenced by the demand for two-year entray level workers.

The next class of information is the prediction of annual number of job openings, 1972-1985; it appears as Column 3 in Table A, Column 2 in Table B. This expectation is projected by the U.S.D.L. Finally, the last column shows the percentage of change in total jobs per occupation between 1972 and 1985. Inspection of these tables will indicate that the symbolic rating given each occupation in the U.S.D.L. columns, all tables of the present report, are a function of both total jobs expected annually and the percentage growth expected in an occupational field.

The significance of nationwide demand, as reflected in these last two columns, for PCC planning lies in the fact that California currently has about 1/10th of the nation's popu-

lation, and of these about 1/10th reside/work in the East Bay-San Francisco (BART) corridor. Thus with a few exceptions based on the local economic mix, the projections of average annual numbers needed may be divided by 100 to yield an estimate of the number of jobs to which our graduates will have access. The factor of growth rate for an occupation probably affects the amount of competition a new graduate faces in seeking a job: rapidly growing areas of work tend to make entrance into jobs easy, while more settled areas of work entail more competion for workers with experience seeking more interesting or remunerative positions within their field.

TABLE A

U.S.D.L. Estimates of Manpower Needs - Nationwide 1972-85

for Occupations Served by PCC Programs

Occupations Grouped by CID Classification Area	AA/AS Entry	BA/BS Entry	Annual Openings	Growth Rate
1. Agriculture & Natural Res.				
Timber Technician	+		800	48.3
2. Architecture & Env.Design				
Architecture	ND	+	17,900	76.0
3. Business & Management				
Accountants	ND	+	41,900	31.0
Bookkeping Workers	+/-		118,000	19.5
Banking & Finance				
Bank Officer		++	13,600	40.0
Bank Clerk	++		43,200	40.4
Bank Teller	++		25,000	40.4
Cashiers (Grocery etc)	++		96,000	25.5
Clerk/Typist	++		115,700	38.7
File Clerks	+/-		22,800	16.7
Industrial Mge (Foremen)	+		58,000	21.6
Medical Clerical Occs	++		10,500	ND
Office Machine Operators	+/-		13,700	17.9
Real Estate	+		25,000	25.4
Secretary/Shorthand Rep'r	++		411,000	60.8
Sales & Marketing Mgemt.				
Retail Sales	++		190,000	20.0
Wholesale	+		31,000	25.2
4. Communications				
TV & Radio (announcer)	--	+	500	21.4
Public Contact Represent.				
Receptionist	++	+	55,000	50.0
Public Relations Wkrs	-	+		ND
Journalism (News Rep'r)	-	+	2,600	29.9
5. Computer & Information Sci.				
Data Processor (Programmer)	++	++	13,000	55.9
Computer Operations	+	+	27,000	10.6

TABLE A, cont.

6. Education				
Recreation Workers	ND	++	5,500	63.0
7. Engineering & Related				
Air Conditioning & Refridg.	++		13,100	96.3
Air Transportation Ind				
Mechanics	++		7,000	53.0
Pilots/Copilots	++		2,000	43.8
Auto Industry				
Body & Fender Repair	+		4,000	16.1
Mechanic	+		22,300	18.4
Business Equip Tech				
(Bus. Mach. Serviceman)	++		3,000	41.2
Chemist	ND	+	6,800	38.0
Drafting	+		17,900	48.0
Electrical Occs				
(Maintenance Electric)	+		9,800	25.0
Electronic Technician				
(Computer Service Tech)	++		4,100	
Engineering				
All Specialties	ND	++	53,000	41.5
Technicians (Surveyors)	+		2,700	40.0
Industrial Engineers	ND	++	7,400	53.5
Metallurgical Engineers	ND	++	500	41.7
Industrial Technology				
All-round machinist	+		13,100	24.8
Set-up men	++		2,200	37.2
Mechanics				
Diesel	++		4,500	36.8
Truck and bus	++		5,100	27.5
Quality Control Tech (Mfg. Inspector)	+		44,700	29.7
Radio & TV Servicemen	+		4,400	18.1
TV Engineers (Brdcst Tech)	+/-		700	12.0
8. Fine and Applied Arts				
Communic. Graphics (Commercial Art)	+		3,400	26.7
Graphic Arts Occs				
Composing Room Occs	--		4,300	- 2.3
Lithographic Occs	++		5,100	48.4
Printing Pressmen	+/-		6,100	28.6
Interior Dec/Design	-		1,000	29.0
Photography, Industrial	+		2,750	ND
Retail Trade Display	+		2,000	ND

TABLE A, cont.

9. Health Services				
Dental Assistant	++		13,000	20.9
Environ. Health Tech	ND	++	1,000	76.8
Exterminators	++		1,300	
Licensed Practical Nurse (LVN)	++		70,000	96.0
Medical Assistant	++		25,000	40.0
Medical Lab Workers	++	+.	13,000	27.3
Nursing Aides, Orderlies, Attendants	++		100,000	51.0
Optometric Assistant	++		1,700	78.8
Radiological Technician	+		6,500	58.0
Registered Nurse	+	++	75,000	40.0
Respiratory Therapist	++		2,000	77.0
10. Home Economics				
Comprehensive Homemaking	ND	+/-	9,200	29.0
11. Law				
Legal Assistant	ND			
Lawyer		+	16,500	25.8
12. Public Affairs & Services				
Administration of Justice local/state police	++		16,600	32.3/50.8
Community & Social Serv (Soc. Serv. Aides)	++		10,000	50.0
Fire Science (firefighters)	++		11,600	57.2
13. Commercial Services				
Commercial Food Services				
Baking	--		@2,000	ND
Cooks & Chefs	++		53,000	14.2
Waiters/Waitresses	++		86,000	16.6
Cosmetologists	++		51,000	35.0
Hosting Service: Flight Attendent	++		8,000	92.4
Shoe Rebuilding	--		1,200	-13.0
Upholsterer	+/-		1,400	12.6
14. Building & Construction				
Bricklaying	+		6,600	25.0
Carpentry	+		37,000	20.0
Cement Mason	++		4,100	46.7
Electrician (Construction)	++		11,100	35.4

TABLE A, cont.

14. Building & Construct, cont			
Glaziers	+	360	50.0
Lathers	++	1,100	33.3
Painters/Paperhangers	+	14,700	9.5
Plasterers	+/-	900	6.6
Plumbers/Pipefitters	+	16,300	25.0
15. Industrial Trades			
Automotive Painter	+	25,800	16.1
Ironworking (incl Ornam. Metal Fabrication)	+	3,400	26.3
Machine Tool Operator	+	25,600	22.9
Molder/Coremaker	-	1,550	1.5
Operating Engineers	++	18,500	31.0
Sheetmetal	+	2,300	23.1
Tool & Dye	+/-	4,200	6.4
Truckdrivers	+	62,600	17.6
Welders & Flamecutters	++	27,200	39.0

TABLE B

U.S.D.L. Estimates of Manpower Needs - Nationwide 1972-1985

for Promising Occupations NOT Served by PCC Programs

Occupations Grouped by CID Classification Area	AA/AS Entry: Rating	Average Annual Openings	Growth Rate 1972-85
3. Business & Management			
Airline Traffic Agents & Clerks	++	7,000	88.7
Credit Officials	++	7,500	ND
Hotel Front Office Clerks	++	4,800	41.2
Hotel Mgrs. & Ass'ts	++	7,500	41.2
Stock Clerks	++	34,800	46.2
7. Engineering & Related			
Auto Service Advisors	+	900	32.6
Flight Engineers	+	300	35.7
Furnace Installers & Gas Burner Mechanics	++	ND	ND
Industrial Machinery Repair	++	44,000	98.6
Instrument Repair (Electro)	++	4,800	38.5
Motorcycle Mechanics	+	800	97.9
Vending Machine Mechanics	++	1,500	32.5
Wastewater Treatment Plant Operators	++	1,200	54.0
8. Fine & Applied Arts			
Floral Designers	++	2,500	ND
9. Health Services			
Dental Hygienists	++	4,800	191.0
Dental Lab Technicians	++	2,000	34.8
Dispensing Opticians & Optical Mechanics	++	2,000	52.0
EEK Technicians	+	900	50.0
EEG Technicians	+	400	57.1
Occupational Ther Ass't	++	1,200	160.9
Physical Ther. Ass't/Aide	++	2,000	141.7

TABLE B, cont.

12. Public Affairs & Services			
Air Traffic Controllers	++	800	33.8
Construction Inspectors (Government)	++	1,500	ND
Health & REgulatory Inspectors (Govt.)	++	1,700	ND
13. Commercial Services			
Hotel Housekeepers & Ass'ts	++	1,700	41.2
Photographic Lab Occs	++	2,700	36.4
Private Household Wkrs	+	51,000	-30.8 *
14. Building & Construction			
Asbestos & Insulation Wkrs	++	1,200	33.3
Elevator Constructors	++	1,000	47.1
Floor Covering Installers	++	3,200	33.3
Roofers	++	3,400	37.5
15. Industrial Trades			
Appliance Servicement	++	6,100	35.0
Auto Parts Counterman	++	3,400	32.0
Electric Sign Servicemen	+	500	46.3

*In the occupation of private household workers, there will be a total decline in number employed, but the turnover in the occupation is so great that in any year a number of openings will exist.

APPENDIX B

MANPOWER NEEDS SURVEY
Peralta Community College District

The Peralta Colleges seek the response of you, and a variety of employers, to this survey in order to make realistic program plans and staff assignment over the next few years. Your response will not be considered as a commitment on the part of the firm.

Return of the survey in the enclosed envelope within 10 days will be appreciated. Thank you for your help.

- Please answer all questions -

1. Are there likely to be full-time job openings in your firm or organization in the next two years for individuals with the following training:

   a. high school or equivalent? no_____ yes_____ 0-19____ 20-49_____
   50-99_____ over 100_____

   b. two year community college? no_____yes_____ 0-19____ 20-49_____
   50-99_____ over 100_____

   c. four-year college? no_____ yes_____ 0-19____ 20-49_____
   50-99_____ over 100_____

   d. non-degreed, but vocationally trained? no____ yes____ 0-19_____
   20-49____ 50-99____ over 100_____

2. Part-time openings in the next two years? no_____ yes____ 0-19_____
   20-49_____ 50-99____ over 100_____

3. The following is a list of occupational areas in which training is provided at the Peralta Colleges. Please check those that apply to your employment needs.

   a. ___Accounting
   ____ Administration of Justic
   ____ Aeronautics
   ____ Automotive Technology
   ____ Air Conditioning and Refrigeration Technology
   ____ Banking and Finance
   ____ Business Administration
   ____ Insurance
   ____ Instructional Aide
   ____ Ironworking
   ____ Journalism
   ____ Legal Assistant
   ____ Liberal Arts
   __ Machine and Metal Technology
   ____ Marketing

List of employer employment needs (continued)

___ Business Equipment Technology
___ Carpentry
___ Chemical Technology
___ Community Social Service
___ Computer Science
___ Cosmetology
___ Dental Assisting
___ Dry Cleaning
___ Electrical/Industrial Control Technology
___ Electronics Technology
___ Engineering Technology
___ Environmental Health Technology
___ Fashion Arts
___ Fine Arts
___ Fire Science
___ Food Preparation and Service
___ Forest Resources Technology
___ Furniture Refurnishing
___ Graphic Arts
___ Grocery Checking
___ Hosting Services Technology
___ Industrial Management
___ Industrial Technology
___ Inhalation Therapy
___ Medical Assisting
___ Medical Lab Technology
___ Metallurgical Technology
___ Mill and Cabinet
___ Nursery School Assistant
___ Nursing (R.N.)
___ Nursing (L.V.N.)
___ Nurse Aide
___ Nutrition
___ Occupational Safety and Health
___ Optometric Assistant
___ Ornamental Horticulture
___ Painting and Decorating
___ Photography
___ Plastics
___ Quality Control
___ Upholstery
___ Radio and TV Repair
___ Radiologic Technology
___ Real Estate
___ Recreation and Leisure Services
___ Respiratory Therapy
___ Secretarial Studies
___ Sewing and Design
___ Sheet Metal

List of employer employment needs (continued)

____ Shoe Rebuilding

____ Supervision

____ Television and Radio Communications

____ Traffic Engineering

____ Transportation

____ Welding

____ Drafting

b. Are there other occupational areas that you require or will require within the next few years? (We are particularly interested in new and emerging areas not currently in our curriculum).

_____

_____

_____

_____

4. What skills do your new employees typically lack?

_____

_____

_____

5. a. Does your firm provide formal training for employees?

yes____ no____

b. If yes, what type of training is provided?

____ apprenticeship

____ pre-employment training

____ on-the-job training

____ continuing education in conjunction with a local educational institution

c. Do you have additional training or re-training needs? yes___ no___

If yes, please specify. _____

_____

6. Does your firm employ any former students of the Peralta Colleges (College of Alameda, East Bay Skills Center, Feather River, Laney, Merritt, North Peralta)?

____yes ____no ____don't know

7. In which occupation(s) have these individuals been trained?

_____

_____

_____

8. Please indicate the adequacy of that training:

____outstanding ____good ____satisfactory ____poor

9. a. Is your firm affected by seasonal hiring? yes____ no_____

b. If yes, please check the peak period(s) of employment:

_____winter _____summer

_____spring _____fall

_____other (please specify, e.g., Christmas, other short-term periods)

_____

_____

_____

10. We would welcome any further comments or suggestions.

_____

_____

Please check if you would be willing to be contacted further regarding manpower planning in the Peralta District.

_____yes _____no

If you would like further information, of if you have questions or suggestions please call: Master Planning - 834-5500, ext 37 or 38.

Form completed by:_____
(Name) (Title)

_____
(Telephone #)

APPENDIX C

BIBLIOGRAPHY

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California Supply and Demand, July-September 1974
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U.S.D.L. Education of Workers: Projections to 1990. Special Labor Force Report 160. U.S. Government Printing Office, 1974.

_____ Occupations, Manpower and Training Needs: Information for Planning Training Programs for the 1970's. Bulletin 1701. Washington, D.C.: U.S. Government Printing Office, 1971.

_____ Occupational Outlook Handbook, 1974-5 Edition. Washington, D.C.: Government Printing Office, 1974.

___ Occupational Outlook Handbook in Brief, 1974-5 Edition. Washington, D.C.: Government Printing Office, 1974.

_____ U. S. Economy in 1985: Summary of BLS Projections, Bulletin 1809. Washington, D.C.: U.S. Government Printing Office, 1974.

Oral information: by staff members of the State of California Employment Development Deaprtment, both the regional and state offices, and the U.S. Labor Manpower Information Center Regional Office, Bureau of Labor Statistics, S.F.

1. Ms. Peal Fong, Employment Specialist, Oakland.
2. Ms. Barbara Mers, Superivor, Regional Employment Service, Richmond.
3. Mr. John Klug, Employment Data and Research, San Francisco.

EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

REPORT ON INNOVATIVE AND ALTERNATIVE EDUCATIONAL DELIVERY SYSTEMS IN OPERATION OUTSIDE THE PERALTA DISTRICT

Prepared by

Glenand Spencer, Chairman

Task Force V.

Educational Services Master Plan Project

Written materials were received by the deadline from Edna Froehlich (Coop Ed) and Ann Spitzer (a variety of summaries on a variety of modes and variations). These have been incorporated into this report, ideationally, and are on file in the ESMPP office. Several members of the committee will be turning in material on specific aspects of new technology in the form of preliminary plans suitable for Peralta use. Those known to the author at this time are

Martin Popish, FRC: adaptation of telephone network to Plumas County realities

Frank Kilzer, FRC: multilevel labs in science

Gary Howard, Merritt: learning packages, including audio tapes, for P(ersonalized) S(ystem of) I(nstruction, in the UWW mode.

Roger Ferragallo, Laney: a life lab proposal with multimedia components.

INTRODUCTION

The charge to this committee was to investigate innovative and alternative systems of educational delivery in institutional settings outside the Peralta District. This information is assembled with the view to providing a list of alternative directions of growth and development which the district may then consider in its long range planning for the future.

The content of this report is organized on the assumption that it would be useful to provide informational support for three general types of developmental decisions:

1) Upgrading and maximizing the effective delivery of the traditional curriculum to the traditional student populations via non-traditional delivery systems.

2) Establishing and implementing methods for extending the traditional curriculum to non-traditional student populations via non-traditional delivery systems.

3) Establishing and implementing methods for the delivery of non-traditional curricula to all student populations.

The delivery systems described in this report have the following characteristics:

1) They have been tried with reported success in institutional settings comparable in function and scope to the Peralta District.

2) The characteristics of each delivery system can be determined to relatively fine grained levels by in vivo observation or through published analytical studies that are available.

3) The performance characteristics of these delivery systems can be projected to the Peralta District with reasonable reliability by a comparative analysis of similar institutional settings in which such characteristics are now well established and stabilized.

Plan of Presentation

Part I: Four general types of delivery system are described, together with some general properties of each system and some constraints which the use of such a system would entail.

Part II: Some remarks relating the use of these systems to the specific problems and needs of Peralta District.

Part III: A modest proposal: A rationale for assigning priorities to the development of non-traditional delivery systems over the next five years, in light of the information developed in this report.

PART I: EDUCATIONAL DELIVERY SYSTEMS.

The delivery systems described in the body of this report are arbitrarily partitioned into four general categories according to some pronounced characterizing feature they possess. The categories are not mutually exclusive; some delivery systems fit comfortably into two or more categories of this classification scheme. They are sorted into equivalence classes according to some dominant shared characteristic.

1) Hardware systems:	Page
CAI (Computer Assisted Instruction).	5
Learning Centers.	10
2) Curriculum Packaging systems:	
Modular packaging.	12
PSI (Personalized Systems of Instruction)	13
IPI (Individually Prescribed Instruction)	14
Flexible Scheduling	15
Open Entry Systems	16

3) Institutional Design Systems:

	Page
The Multi-Unit College	18
Cooperative Education	19
UWW (University Without Walls)	23
The Open University	24

4) Dispersed Population Delivery Systems:

Television	25
Radio	28
Newspaper	28
Telephone	30
Extension	32

Hardware Systems:

These delivery systems are characterized by a rather costly ensemble of hardware. Their most characteristic feature is that, using the capacity of these machines to sort, select and present instructional materials, a vastly expanded capacity to present complex and varied instruction at great speed is provided. These systems also escape many of the constraints of time and space which are entailed by all conventional systems of delivery. The two most prominent and useful instances of hardware delivery systems are CAI and learning centers.

Computer Assisted Instruction (CAI).

The most costly and far reaching innovation in present day education is computer assisted instruction (CAI). The literature surveyed suggests that three constraints will make CAI a necessary condition for survival for most institutions of higher learning; these are:

1) A continuing and increasing trend toward individualization in virtually all disciplines of instruction.
2) The near-exponential growth of information that constitutes a "discipline field."
3) The resulting decline in numbers of teachers qualified in the sense that they are able to keep themselves currently informed in their disciplines.

The following remarks abstract the sense of the literature examined in preparing this report:

1) If knowledge accumulates and disciplines partition into specializations at the present rate, it will be impossible to provide competent instruction over this domain without computer assistance within the next ten to fifteen years.
2) Although computers do a vast number of tasks at unimaginably low cost per task, the installation of a computer system does not appear to lower the total

cost of operating a facility. Once the initial investment is made, however, computer assisted instruction can multiply by several factors the number of students that can be serviced by a given facility. This means that the cost per student decreases as a campus expands its CAI operations while ADA remains constant; the more a computer system is used for CAI, the more income is produced for operating the system.

3) Excluding administrative uses of the computer, a well selected computer system will interface with several other "educational" functions besides direct instruction, e.g.,

a) It can be used to manage flexible scheduling and open entry programs of such complexity as to be unmanagable if done "by hand."
b) It can be employed to expand the services of student counseling.
c) It will facilitate the implementation of PSI and IPI instruction programs.
d) It will permit the modularization of curricula to meet changing needs.
e) It is capable of expanding by several factors the library services of a facility without significantly enlarging the library staff.

4) It will diminish a district's problem of maintaining a competent and current teaching faculty in the face of increasing knowledge and specializations. The normal fluctuations in a teaching staff--retirements, deaths, resignations, leaves, etc.--have virtually no influence on the capacity of a well established CAI system to provide a comprehensive set of course offerings. A course does not "die" or go on leave because a particular instructor does. There is much less occasion for the cutting

of classes or the manipulation of class size because of unanticipated staffing changes.

5) CAI permits the extensive use of "paraprofessionals" in many of the roles now filled by certified staff, thus enlarging by several factors the student contact per professional without significantly increasing his work load.

6) CAI has been employed with success in at least ten distinctive modes of instruction:

Management of instruction and instructional materials.
Administration of drill and practice sessions.
Conversations and dialogs (foreign languages).
Large data-base inquiry systems.
Simulation and games.
Problem solving.
Laboratory data analysis.
Laboratory Data acquisition.
Control of experiments.
Production of graphics, movies and other media.

The instructional costs (based on 1970 figures) of computer instruction range from $10 per student per year (minicomputer systems) to $100 per student per year, with the average outlay about $55. The cost per student is a function of student mix; an emphasis on technical and vocational education raises the cost of CAI; on the other hand, its use in the areas of remedial education and the upgrading of minority student populations in basic academic skills is relatively inexpensive. This means that urban districts with relatively large minority populations and a continuing heavy schedule of remedial teaching and which also emhasize vocational training should seriously consider the advantages of a CAI system. The savings in operating remedial instruction by CAI would offset the cost of providing extensive technical and vocational training. Comparative cost studies

suggest that, compared to the traditional instructor-taught class, comparable CAI instruction reduces the cost per student per year by a factor of approximately 5.

In general, the major contributions of CAI, where the systems have been in operation for five years or more, have been:

1) More content can be learned faster.
2) More complex content can be mastered with acceptable proficiency at lower levels of academic standing.
3) Higher standards of quality are generated in course content.
4) Relative ease of upgrading course content in diciplines undergoing rapid change.
5) Increases by several factors the ability to provide evaluation and feedback to students on a continuing basis.
6) Shifts the learning process toward nonjudgmental presentation and evaluation (reduces dropout rate).
7) Forces management by objectives at all levels of operation within the system.
8) Permits more flexibility of role within the teaching and counseling staff.
9) Provides students with direct experience with one of the major technological forces that will shape their future lives.

As a summary of what is presently available, there are over 1000 course programs now in use and available for use by other institutions converting to CAI; they cover virtually every course offering found in the standard two or four year college. Thes programs are listed in the Index to Computer Assisted Instruction, Helen Lekan, Univ of Wisconsin Press (2nd Ed., 1970). Each course is analyzed by a number of variables such as prerequisites level of instruction, completion time, type of student, program logic, instructional language, and the central processor (computer) required for its use.

The following information sources are available for consultation, designing and planning of CAI systems:

Honeywell, Inc., Advanced Development Group
200 Smith Street
Waltham, Mass.
(Elmer C Bartels)

Ann Arbor, Michigan
(Dr Karl L Zinn, Principal Investigator)

The Rand Corporation
Systems Sciences Department
1700 Main Street
Santa Monica, Calif
(Dr Roger Levien)

Systems Development Corp.
2500 Colorado Ave
Santa Monica, Calif
(Samuel Feingold)

Our sources suggest that a CAI system should develop in the following sequence of steps:

1) Selection of central processor (the computer) and the interfacing hardware (instructional terminals, etc.) in terms of anticipated needs and funding available.

2) Selection, from available programs in use, of courses and topics by program language and instructional logic compatible with the hardware installation selected.

3) In-service training of teaching staff and the gradual development of indigenous instructional programs by facility teaching staff according to local instructional needs. At the present time the production cost of good tutorial CAI programs is about $3000 per instruction hour.

The selection of a computer system should take account of other regional CAI systems that may be in service, and system planning should take account of the costs, savings, advantages, etc., of time sharing, exchange of services and pooling of programs within a region.

Finally, a distinction between computer assisted instruction (CAI) and computer administered or managed instruction (CMI) should be noted. Computer assisted instruction appears to involve the teaching staff much more directly in the day to day instructional activities, and it serves mainly as a kind of aid or extension of the classroom instructor. Computer managed instruction involves a rather complex ensemble of programmed instruction packages, and the computer makes teaching decisions within these branching programs as an ongoing function of student performance. Both the costs and the consequences of these two choices of software differ, and they should be studied in some depth prior to a selection of software systems.

The investigators we have consulted have found three main barriers to the effective CAI implementation, once a commitment to computerized instruction has been made:

1) Lack of cost-effective, service-oriented terminal facilities.
2) Problems, physical and "human," of shifting from the conventional lock-step of tightly scheduled courses to individualized packages and flexible scheduling.
3) Lack of fundamental interest and incentive of teaching assistants and faculty in meeting the remedial needs of entering and minority students.

Learning Centers.

The learning center concept preceded the development of computerized instruction and may, in its present form, be regarded as an alternative and relatively inexpensive mode of delivering instruction of individualized and programmed nature through "hardware" instruction terminals.

Learning centers rely upon relatively simple "teaching machine" type gadgetry such as tape cassettes, slide projectors, "talking page" preparations, film loops, and the like.

A recent innovation of great promise is the Sony Corp. video cassette ensemble. This device, which can be operated through either learning center terminals or home TV receivers, and which can also be interfaced with computerized instruction packages as well, has substantially enlarged the service capacity of learning center facilities.

There appears to be little that a learning center facility can provide that a CAI system does not. Since the hardware of learning center installations is relatively familiar this aspect of the concept will not be developed here.

Most learning center equipment and procedures result in a unilateral delivery of programmed and prepared learning materials, "Unilateral" in the sense that the instructional materials are programmed in advance in rather rigid ways and the student must "fit in" with this preconceived structure and content. By contrast, computer based instruction systems are now flexible enough to permit student directed probes into course materials.

The principal features of a learning center mode of instruction delivery are:

1) Strong pressures toward management by objectives and for specification of behavioral objectives in the preparation and evaluation of instructional material.
2) Facilitates flexible scheduling and open entry programs of instruction.
3) Well suited to the "modularization" of instructional content and to PSI and IPI plans of instruction.
4) Maximizes the visual domain of instructional materials.
5) Learning centers are typically "time free" but space constrained systems of delivery. The student must come to a given place to be instructed, but is virtually free to select the time of instruction.

Curriculum Packaging Systems:

The varieties of delivery system included within this category may be described as non-traditional modes of packaging the curriculum and/or scheduling class and course time blocks. The teaching methods and the instructional "furniture" may remain quite conventional or they may be redesigned to suit or to enhance the delivery method being used. The physical setting in which these delivery systems are employed and the instructional content delivered are not an essential aspect of the system. Although any one of the five systems described could be employed without involving the others, the most effective programs of curriculum packaging have used them all to one degree or another.

Modular Packaging.

The traditional "course" is partitioned into much smaller units with the limiting case being the "single concept" unit. Typical modules consist of two to five key concepts which collectively make up a molar unit of instruction. The virtues of modular packaging are many:

1) Open entry and time free plans of study are facilitated.
2) Students may leave and reenter a course of study at well defined points so that "repeat" work is minimized.
3) From a given ensemble of modules, several different courses may be composed by the selection, combination and emphasis of modules. This would permit students who must complete specific prerequisits in transferring to other schools to "compose" that course and complete it without the necessity of the course being offered as a "class."
4) Modularization facilitates the specification of behavioral objectives and the evaluation of student performance in terms of them.
5) Modularization permits the instructor to offer "multiple unit" courses and this, in turn, allows students to elect that block of academic work they are capable of completing within a given time frame.

PSI (Personalized Systems of Instruction).

The modularization of course content permits, but does not require, the "personalization" of instruction; personalized instruction, on the other hand, is almost always modularized to some degree. Essentially, PSI is a philosophy of education; its basic precepts are:

1) Students can be most effectively instructed when they are allowed to proceed at their own pace.
2) Education is more effective if the learner is made responsible for his own learning, and this involves the selection of content to be learned, and the fulfillment of contracts about work to be done.
3) There is no single "prefabricated" course of instruction that best suits the needs of all students.

Personalized instruction may be thought of as a form of programmed and individually guided study of modules. Most of the "virtues" enumerated for modular packaging are, in fact, goals of PSI.

The capital costs of shifting to a PSI mode of instruction are negligable; the difficulties, however, are not. Whereas CAI is a system of hardware provided by the institution and within which both faculty and students function, PSI is mainly a frame of mind of the teaching faculty. Most of the labor involved in producing teaching modules and flexible scheduling is borne by the teaching faculty, and unless they can be persuaded to undertake a PSI program in good faith, little is likely to come of it. District planning in this regard should allow for substantial funding of released time for preparations if such a transition is to be successful.

From the literature of PSI we may conclude that the major advantages accruing to a district with an extensive PSI program

are mainly in the area of increased ADA. Dropout rates tend to be significantly less within PSI systems, and the percentage of students returning for further instruction increases.

IPI (Individually Prescribed Instruction).

IPI is a rather extreme form of PSI. Typically it involves modular packages of the "single concept" variety, so that individual courses of study can be "prescribed" for each student according to his competency, background preparation and goals. This has also been called "mosiac programming"--a student's course of study is put together as a mosiac of individually selected parts (modules) with the aim of producing a given level of competency according to pre-set behavioral objectives. Such a system of instruction allows each student to invest the minimal time necessary for mastery of a given block of academic work without compromising whatever standards of excellence have been set.

There is a national trend toward "competency based degrees" which is paralleled by increasing adoptions of PSI and IPI systems of instruction, and one reason for this is that IPI permits a student to use his life experience to minimize the labors of academic achievement without this experienced having to be translated into"academic equivalences" of units or courses existing in the curriculum. A student's claims of having learned a portion of some course of study in the "school of hard knocks" is confirmed or disconfirmed by what he can do with it. There is clear evidence that a substantial increase in student enrollment could be recruited from returning veterans, skilled workmen and others, if some acknowledgment of what they already know well allowed them to extend rather than repeat their education.

A last point worth making in regard to IPI is that, with such fine-grained packaging of instructional content, it would be possible to compose virtually any variety of special course

work without the retraining of teaching staff or creating a traditional course that must be filled with a minimum number of bodies to be given. This could be a most important factor in keeping vocational and technical training current with any new advances in the field or demands in the local employment market. It is a relatively simple matter to "build in" or "build out" a particular concept or skill, so that courses are kept closely tailored to student and community demands.

Flexible Scheduling.

Flexible scheduling is an escape from the "lock-step" scheduling and planning of traditional instruction, where the structure of scheduling and planning is mainly for the convenience of the institution rather than for effectiveness of instruction or service to students. Like PSI, it is essentially the outcome of a philosophy of instruction which views the traditional school as a minimally efficient instrument of instruction. The basic premise involved is that people do not function efficiently or effectively when their mental and physical activities are subject to arbitrary and inflexible scheduling.

For a school of any size, a truly productive program of flexible scheduling requires a master schedule of great complexity which would be impractical to generate "by hand." A relatively small portion of computer capacity, however, permits schedules to be generated and loaded for optimal service. The flexibility of such schedules can be maximized, and they can be continuously monitored and evaluated with comparatively little effort and computer time.

Essentially, the specific advantages produced by flexible scheduling are:

1) The length of class meetings can be varied to suit the needs of instruction. For example, a course that requires a laboratory or field experience at

specific but brief intervals to maximize the educational value of the course could easily be scheduled.

2) The length of course offerings can be varied according to the amount of academic work deemed appropriate or necessary. Courses that have "Mickey Mouse" reputations because their thin content must be scheduled across an entire quarter or semester can be made to run as long as necessary, and no longer. Similarly, difficult courses can be extended appropriately. To illustrate, a calculus course could be offered to students with prerequisite preparation in the standard time; it could also be offered to a group of students who are very close to this standard with an additional two weeks.

3) Flexible scheduling enormously facilitates any open entry program the school may wish to introduce. Students can be programmed and scheduled for early exit or late entry with very little difficulty. This is of considerable service to students who enter from or transfer to schools with different entry and exit dates.

4) Flexible scheduling permits an institution to do for small clusters of students what IPI does for the individual student--"equivalence classes" of students whose needs, preparation and abilities are well matched can be treated "as one" in that schedules which best meet their needs can be generated.

Open Entry System.

It is widely known that the lock-step scheduling of traditional educational institutions fits well with an exceedingly small proportion of the students it serves. Community populations not being serviced by a college are often found to be and to remain disengaged from the school largely for this reason. Open entry plans merely extend the flexibility of scheduling from class hours to quarters and semesters.

Open entry systems, then, share with personalized and individualized systems the feature of redesigning the course presentations in the direction of modules to facilitate

relatively unrestricted entry and departure of students. The power of open entry to attract and hold students from minority populations and from groups that never have used the school but otherwise have motives for doing so should make this plan well worth the consideration of the district planning group.

As a general concluding remark, there exist a number of modularized instruction systems in operation; these are available for detailed study. Well detailed literature exists for the following:

SPLM (Single Page Learning Module)
UNIPAC (Unitary Concept Packages)
TULSAPAC (A modular package developed by the Tulsa, Oklahoma, school system)
LAP (Learning Activity Package)
PPBS (Planning/Programming/Budgeting System)
Project PLAN (Program for Learning in Accordance with Needs)

As a compromise between these non-traditional modes of curriculum packaging and the traditional system, there are plans for maximizing the traditional class system through selective grouping. Two such concepts are the Beardsley Ruml Plan and the Bakan Plan. The Ruml plan is based on the idea that instructional efficiency can be significantly improved if one can register most of the students into a few large lecture courses and otherwise meet them in small groups with the saved instructor time. The Bakan plan drastically compresses the traditional curriculum to buy tutorial time; the instructor meets classes 16 hours per semester, with the remaining time spent in 1/2 hour tutorials.

Institutional Design Systems:

Curricula and physical plants are not the only entities that can be designed (or redesigned) to maximize the delivery

of instruction. The institution itself, in terms of facility location and use, curriculum policies, admission policies, etc. is highly influential in determining the outcomes of instruction. In this respect, there are four "institutional design" concepts worth examining.

The Multi-Unit College.

When a college district operates more than one physical site, the question of how these several facilities may be used to the best advantage arises. A large urban area is almost always a cluster of distinctive cultural units ranging from the inner city ghettos to suburban bedroom communities. The fact that each of the Peralta Colleges draws its students from from all areas of the district and offer substantially the same programs, suggests that this question and its alternative answers are well worth considering.

Although the existing facilities are permanent in nature, the prospect of beginning to offer other and non-traditional educational services raises the question of whether strong advantages may not accrue to the district by redefining the functions and services of the several colleges as well as being open to the proliferation of branch facilities and "minicolleges" down to the store-front and street academy level.

The fact is, we do not attract very large numbers of minority students to our concrete education factories, and it has been the experience of those colleges which have enlarged their student populations and extended their services that both differentiated and numerous learning sites have become necessary. Antioch eventially expanded from one to over twenty locations upon embracing the "open university" plan. The successes of Project AHEAD (Forest Park Community College), Project SEARCH (Cuyoahoga Community College), and Malcom X College (Chicago) all suggest that minority student populations respond to non-traditional plants, educational formats and delivery systems when these are tailored to their needs.

The prospect of specializing each of the colleges to a particular educational plan is also of interest when the broader consequences of adopting such programs as CAI, cooperative education, modular planning, open entry, etc., are considered.

It is not unreasonable to suggest that the faculties of the present colleges will divide along lines of interest, commitment, flexibility, and so on. The success of any of these costly and ambitious projects may depend in part upon re-sorting the faculty and assigning the new groupings to specific sites where one or another of these plans most congenial to them is to be implemented. If the master plan should propose that CAI be instituted at one campus first, and that other programs be centered in single facilities, this kind of realignment of faculty could minimize much of the internal problems that would result.

A literature on the multi-unit concept and the designing, use and development of differentiated sites exists, should this choice be seriously considered.

Cooperative Education

Cooperative education is essentially a joint venture between an educational institution and some surrounding community to deliver educational services to a student population. Cooperative education programs may be designed around either of two general plans:

1) Vocational. This is a predominately trade oriented program and involves extensive cooperation with the industurial and union segments of the community. The work experience that is integrated with the student's academic program provides both an appreciation of this aspect of society and prepares the student to make vocational choices about his life.

2) General. This is mainly a professional and "services" oriented program, and seeks to involve the student

in various work/assistance relations with professional and service activities within the community and with its social institutions per se. Such a program may extend from various "paraprofessional" experiences in medical, teaching, performing arts, etc. activities to involvement with city government agencies, social planning and welfare, and so on. The Peace Corps is an example of this kind of general community involvement except that in this case the communities in which the students immersed themselves were foreign to them.

The type of cooperative education program a given educational institution establishes will be determined mainly by the character of the community it serves. A community that is mainly industrial cannot be expected to support much beyond a vocational model of coop education; in an urban community almost any mix of these types of program can be established. Vocational coop education programs are typical of high school and many community college settings; general coop education programs have been mainly confined to the four-year schools. This, however, is an historical accident and is not a constraint of the school, given that a community could support either model.

Cooperative education is not identical with "work experience" education although work is always includes within this plan of education. As presently conceived, the ideal cooperative education program would integrate both academic and practical experience so that each type of learning experience illuminated the other, with each clarifying the relevance of the other to it. Although the primary objective of most collegiate cooperative education programs may be characterized as "career development," a guarded interpretation of "career" is in order; it can be extended to cover such "careers" as marriage, family life, recreation, life goals, and so on, as well as "ordinary" work.

The evidence is strong that a cooperative education program will deliver the maximum benefits for a minimum cost and effort

if the program is integrated widely throughout the entire institution, encompassing all programs and content areas where such non-academic experience is relevant.

The desirable outcomes that could be expected to accrue to a community college through instituting a cooperative education program may be briefly summarized as follows:

1) Enhancement of college-community relations and involvement from which a number of non-traditional educational resources, assistance and benefits may flow:

   a) A large number of "experiental learning" tasks may be delegated to the community and to community facilities at no significant cost to the district in terms of capital or intangible investment.

   b) Community identification with the college and its fate is usually quite significantly enhanced--an asset of some value when questions such as bond issues and such matters arise.

   c) Facilities of various kinds, from "store front" street acadeny sites to shared use of other community facilities become more easily available as needs arise.

2) A cooperative education program is capable of developing a large "repeat business" in terms of a revolving student body that returns time after time for personal and career enhancing services and training. They also appear to serve as a significant factor in the recruitment of new students as the young move through the local community secondary school systems.

3) The case of urban or inner city colleges in particular, the existence of a well designed cooperative educational program appears to result in a quite substantial increase in ADA and full and part time enrollments.

There are two general methods of integrating the work and academic parts of a cooperative education program, and their differences should be carefully considered. One plan calls for the work and study portions of the program to be coextensive--the student is always a "part time student" and part time employee. The other plan alternately schedules the student to full time study and full time employment, with the complete cycle usually being completed in one academic year.

1) Concurrent work-study plan:
It is possible to keep the work and the study parts of the student's program closely integrated in terms of relevance and cross-reference. Usually the academic program is continually adjusted to maximize its transfer to the work experience, but in some cases it may be possible to alter the work experience to illustrate or extend the academic work being undertaken. This plan would appear to be more feasable if the cooperative education offerings were mainly general (rather than vocational) in nature.

2) Alternating work-study plan:
It is possible to release the student to meet the needs of employer on a full time basis for a quarter or semester at a time. In most vocational and technical programs this plan will generate many more placements and a continuing interest in the program on the part of the industrial community. Part time employments are simply too difficult to arrange and plan for. Under this plan, the program can guarantee the employer that the full time position will be kept filled.

The fact that cooperative education programs enable a large number of students to be self supporting and to finance their own education is also a factor in the strong student recruiting power which these programs are typically found to have.

Given that a district already has a viable cooperative education program going (as Peralta does), it would be neither difficult nor expensive to expand the program as far as committing an entire facility to cooperative education offerings. The "costs" would be almost entirely internal and of the "software" variety. Essentially, what is entailed in such an expansion of the program includes the following:

1) The adoption of a "management by objectives" attitude for all course offerings.

2) The reconstruction of most course offerings, both in length and content, so as to be relevant to and consistent with respect to the work experience experience component of the courses.

3) An "open entry" or flexible scheduling system, although not necessary, enormously improves the program's holding and recruiting power.

4) Substantial reorganization of counseling and other student services and support operations; at the very least this involves some "upgrading" and in-service traiing of counseling staff.

5) Reorganization of some administrative structure to accommodate the diversified and flexible educational demands that would be entailed.

6) "reeducation" of the teaching faculty to the need for learning new content, new techniques, new objectives and new systems of evaluation.

University Without Walls (UWW).

The "University Without Walls" concept is something like PSI (Personalized Instruction) applied to the design and function of the total institution rather than to design of individual courses. Some twenty four-year colleges and universities in the United States are presently committed to this form of structure and function. Although individual institutions that

are labled "UWW" interpret the meaning of that term in somewhat different ways, they are all characterized to some degree by the following traits:

1) Open entry policies. Virtually any person presenting evidence that he can profit by the offerings available will be accepted. Formal prerequisites are non-existent or nominal.

2) The student is expected to make use of his own worlds, private and public, as a learning resource.

3) Flexible scheduling with few time limits on completion of work contracted for.

4) Wide use of instructional & remedial aids that permit individual remedial work as required and which also facilitate self-instruction.

5) Competency-based degree programs which use and acknowledge a student's past experience

6) Individually designed evaluation procedures of non-formalized or standardized nature.

7) Within broad limits, students are permitted to design much of the curricula they will undertake, in agreement with the school.

8) Wide use of "dispersed population" delivery techniques (correspondence, telephone, etc.) with a minimum of "in residence" requirements.

The Open University.

The open university concept is very similar to UWW, the main distinction to be found in practice being a somewhat freer

interpretation of what constitutes a proper "curriculum." Although an institution labeled "open university" may actually be quite traditional in its offerings and evaluations--the Open University of Great Britain, for example. Typically, however, the open university will be found to allow its student population to stipulate what it wishes to learn, and to then provide instruction of this kind. The oper university will then be less concerned with the academic status of its offerings among other institutions; it is less a "degree" than an educational institution.

Dispersed Population Delivery Systems:

The distinguishing feature of these systems, of which we shall describe five, is that they exploit existing media and communications systems as carriers of instructional materials. Given that these media and communications services are available (and all of them are available to the Peralta District), it is possible to reach a widely dispersed student population and to service them without requiring their assembly in a given space at a tiven time. Some these systems are "space free" but time constrained--the students may be in any number of places but must be there at given times to be instructed--and others are near to being both space and time free; the student can cut into the system from any number of different locations at almost any time of his own choosing. Three of these systems are "media" systems (TV, Radio, Newspaper) and two are "communications systems" (telephone and mail).

Instructional Television (ITV).

Considerable controversy still exists about the use of television as a technique or medium of instruction. Essentially, the two views divide over the following question: Is ITV a new and superior device for motivating and teaching students or is it merely an inexpensive and effective delivery system for instructional content?

Earlier views appeared to hold that ITV would motivate the unmotivated, hold the drop-outs, enrich the ghetto/minority students minds, and vastly increase the depth and breadth of instruction through the coherent integration of audio and visual dimensions of learning. No research supports these optimistic expectations. ITV appears to be no better than conventional classroom instruction; it does, however, have many virtues as a delivery system, and it is this aspect of ITV that will be reviewed here.

The most important advantage of ITV is the capacity of such a system for receiving, sending and presenting very large amounts of complex imformation, both verbal and graphic, in ways that are relatively free of static space and time constraints. Students can be in any number of places at a given time--including their own homes--or they can, through interfacing devices, obtain TV instruction at almost any time or place they wish.

The following characteristics tend to be found associated with ITV instructional systems:

1) ITV forces striking improvements in the preparation and presentation of instructional materials. Feedback from large ITV audiences quite effectively reduces the idiosyncratic irrelevances and obscurantisms that tend to survive rather easily in the autocratic, small-class setting. This benefit, however, does not derive from TV presentation per se but from the effect of TV presentation upon instructional staff.

2) ITV standardizes and optimizes the visual and auditory quality of instruction; virtually every student has a "front row center" seat with respect to hearing and seeing what is going on.

3) ITV does arouse considerable motivation on the part of students to attend, but it is somewhat questionable

whether this is a motive to learn. There is some evidence that the motive aroused is to be entertained and incidentally, students learn while being entertained. ITV attracts and holds more marginal students than do conventional classes, but it does not instruct them any better. Overall GPA is not significantly improved by ITV presentation.

4) ITV maximizes the effectiveness and impact of the few "superior" instructors each institution tends to have, since these are usually the people who go on to prepare and present the TV material for use. It has been found that good classroom teachers also make superior TV instructors also.

5) ITV unquestionably facilitates instruction in certain areas where close-up and fine detail are important and repeated demonstrations are necessary. This is an extremely costly kind of instruction to provide on a personal basis; it is very effectively done with ITV. The most effective use of ITV to date has been in technical and vocational training programs and in certain professional training programs such as medicine, dentistry, and so on.

6) Adults and other segments of the community populations that have been "turned off" by the conventional school of their past experience and who simply will not return to it can often be persuaded to reenter college when non-conventional devices, of which ITV is one, are made good use of.

The cost of instruction, when ITV is compared against conventional classroom instruction, is quite favorable. When compared on a "cost per student" basis, the break-even point

for an ITV system is around 200 students. When the number of students serviced reaches 1000, the cost per student of ITV is about 85% of conventional cost.

A wide array of plans for using commercial and cable TV as delivery systems are in use. When the institution has its own production facilities courses of rather extended length and content and of quite high quality can be produced. These can then be edited, taped and scheduled for broadcast at times and intervals that are indicated by student population needs. These programs may be of high commercial value to the school itself. Golden West College (Orange County) has produced ITV programs that have been purchased by hospitals and other schools for use, thus creating an instructional program that is virtually paying for itself.

Educational TV stations are now linked together by the National Education Television and Radio Center (NETRC). The NETRC was, by 1960, the fourth major TV network operating in the United States.

Instructional Radio.

Although television has virtually replaced radio as a medium of entertainment, radio is still available as a vehicle of remote instruction delivery. This may require arrangements with local commercial stations when the school does not operate a licensed radio station as a part of its instructional equipment.

Most of the instructional uses of radio that were considered were rather limited in scope; the principal use that suggested itself for Peralta District was for the Feather River campus. Unfortunately, the terrain of Plumas County makes radio broadcasting an extremely inefficient delivery device for that area.

Newspaper Instruction.

By arrangement with local newspapers (the arrangements are likely to be easy to conclude since this usually results in a sharply increased readership of the newspaper), instructional

materials are published on a daily or weekly basis--they are the "text" or lessons of the course. Students are thus able to take the course at home, at their own rate of study. Examinations, evaluation and credit can be arranged in a number of ways, such as requiring a campus visit for final examination, special written tests proctored by librarians in the neighborhood, and so on.

A special virtue of this device is that it is able to encourage a large number of people who, for one reason or another, fear attempting campus attendence where they have to expose themselves and compete with "real" students. It provides a relatively safe setting in which a person can try out higher education to see if it is for him. There is some evidence that many students who begin newspaper courses subsequently enroll in the regular, on-campus program. To the extent that this is so, such a program would serve as a continuing recruitment device for students. It also has the virtue of reaching student populations which cannot regularly attend the campus or leave their homes on a regular schedule.

Such a program was instituted by Moraine Valley College in Palos Hills, Illinois, in 1973 with enormous success. The single course offered on an experimental basis attracted 700 registrations and over 200 telephone inquiries. Both student and faculty evaluation of the experience was highly favorable.

The lack of "personal contact" which such a delivery system entails can be compensated for in a number of ways. Moraine College instituted a "telephone hot line" on which students could discuss individual problems with instructor or teacher aid, and there were weekly "rap sessions" offered at various locations in the community at which students could obtain individual and small group tutoring, exchange views, and so on.

Telephone.

The telephone as an ICD (Instructional Communication Device) has been in use since 1933, when it was used in Iowa to service home-bound and hospitalized students. The first college level application of telephone instruction was undertaken by the College of Dentistry at the University of Illinois in 1947. In brief; there exists a well tested body of applications of this form of instruction for study and analysis.

The present state of the art permits what is called "teleteaching," a two-way communication system in which teacher and a widely dispersed "class" of students can be in continuous interactive communication. At the same time, it permits brief private conversations between student and teacher--a feature not possible in most classroom settings. This method of delivery was later expanded to permit the transmission of graphic materials from instructor to students--the VERB system (Victor Electrotypewriter Remote Blackboard). The basic system consists of a transmitter, a receiver, two data telephones, and two telephone lines. A pen at the receiving end duplicates the movements and graphics of a pen held by instructor at the other.

In general, the achievement level of telephone-taught students equals or surpasses that of lecture class students. Several studies reveal that student receptiveness to this form of instruction is very good. The expected loss of "face to face contact" turned out to be no loss; the physical presence of the instructor has (in a Los Angeles application) been reported as being distracting by students.

With such a delivery system two general advantages accrue:

1) Widely dispersed and immobilized students can pursue a course of study and maintain good standards of performance equivalent to students attending regular classes.

2) Lecturers and speakers from remote areas (including overseas) can be brought into the course presentations, making the course much more flexible and interesting.

Studies summarizing the virtues and advantages of telephone-based instructional systems report the following:

1) For the Student:
   a) Provides for instruction when student is home or hospital bound.
   b) Provides for class presentations to widely scattered body of students at some given time.
   c) Permits private and personalized teacher-student interaction at the moment it is requested.

2) For the teacher:
   a) Provides the means of continuing instruction to classes when teacher is home or hospital bound for extended periods of time.
   b) The system makes faculty sharing by different campuses possible.
   c) System can be used for many "in-service" training purposes with student and new teachers.

3) For the Institution:
   a) Makes use of readily available communication network; no capital outlay of large amounts required.
   b) System permits flexible planning and scheduling.
   c) System allows for "class sharing" among several campuses of the system and eliminates the frequent necessity of canceling small classes at one facility.
   d) Reduced dependence on substitute teachers.
   e) Permits variations of the team teaching technique.

Mail (Extension).

Correspondence courses fit very well into a framework of personalized instruction, open entry and flexible scheduling, with the further advantage that it permits the servicing of student populations remotely located and/or who cannot travel to the campus. A famous example of this type of instruction, carried out on a world-wide basis, is the Open University of Great Britain, and their system of delivery may well be worthy of study.

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PART II: SOME REMARKS ON THE RELATION OF THESE DELIVERY SYSTEMS TO THE SPECIFIC PROBLEMS AND NEEDS OF PERALTA DISTRICT.

The following remarks about the delivery systems discussed in part I are selected and guided by two working assumptions:

1) In the absence of a substantial and sustained increase in ADA, the financial resources needed to support any extensive moves in the direction of increasing services will not be available.

2) Demographic studies of the East Bay Area suggest that the traditional student population we are presently geared to educate is moving out to outlying areas serviced by other college districts. On the other hand, the populations of our district which presently make little use of Peralta's services tend to increase. In view of this trend, the usefulness (if not the survival) of the Peralta Colleges may depend heavily upon a massive shift toward the non-traditional delivery systems which have well established drawing power among these community groups.

With the foregoing in mind, we suggest that the planning group make an in-depth study of establishing the following delivery systems in one or more of the district's facilities:

1) CAI instruction.
2) Cooperative education.
3) Dispersed population delivery.
4) The multi-unit college plan.

The first three delivery systems entail some degree of non-traditional curriculum packaging (modularizing, PSI, flexible scheduling, etc.); this, in turn, will inevitably move the colleges in the direction of UWW or open university organization. The first point (repackaging) may be obvious from previous discussion. With respect to the second point, the "walls" of educational institutions are not merely physical--they consist of rigid scheduling and curricula as well. When these walls come down, the entire institutional structure becomes more open, and the physical walls enable rather than constrain. Curriculum packaging and institutional structuring, then, are secondary decisions, and will be determined by the nature and extensiveness of district commitments to one or more of the four systems mentioned above. Some remarks bearing upon the constraints and consequences of these four options follow.

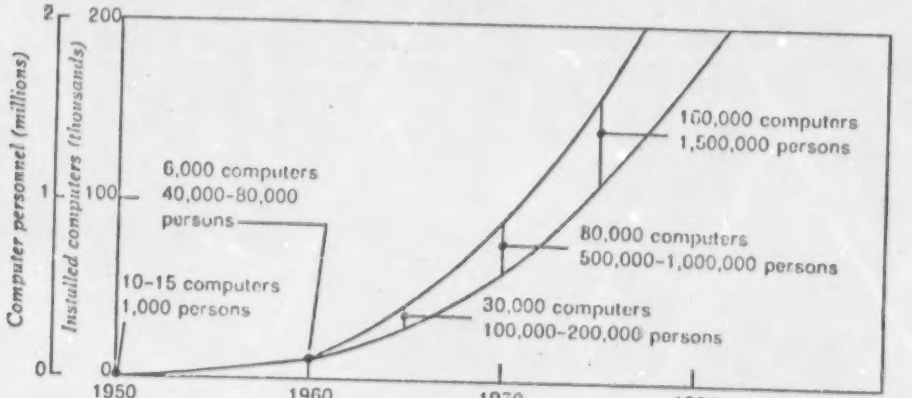
CAI Instruction.

The district presently owns four major items of computer hardware; a 370/135, an IBM 228, a Datapoint 2200 and an IBM 3. Although this equipment is presently devoted almost entirely to administrative and clerical services, with relatively small investment the storage capacity could be expanded to accomodate the CAI development on at least one campus.

The feasability of "intelligent terminals"--minicomputers interfaced with instruction terminals--makes possible a quite large expansion of instruction capacity. These small minicomputers could handle much of the drill/practice assignments and most of the remedial programs that a large proportion of Peralta's student populations would require. This, in turn, would free the main computer from the more routine demands of instruction and it could then be more available for on-line instruction in advanced material.

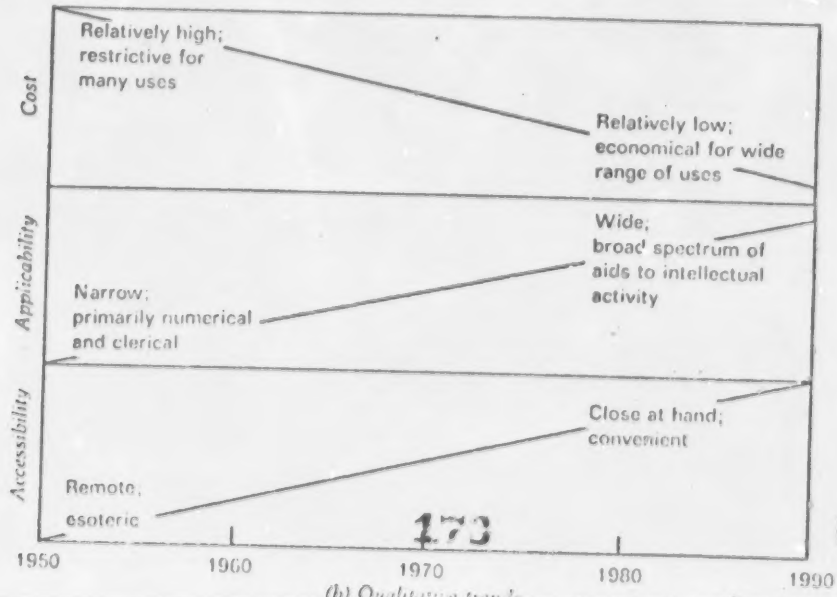
If a CAI program could be instituted on one campus (at least) with the suggested types of modification, by the time a three to five year "shake-down" cruise with the system were completed, the price of more elaborate and extensive hardware can be expected to have decreased to within the financial means of the district. The two graphs reproduced below suggest the projections of computer experts regarding growth of CAI systems and the cost factors over time:

FIGURE 1 *Major trends in development of computer uses*



*(a) Quantitative trends**

* Accurate data on the growth of computer use are exceptionally difficult to obtain. These data were drawn from AFIPS (1966), pp. 7-41, 59, Gilchrist (1969), pp. 24-27, and U.S. Department of Labor (1968), pp. 219-222, 232-234, 259-262; see particularly the subsection published separately on Employment Outlook for Electronic Computer Operating Personnel, Programmer, Systems Analyst. Trends are shown as bands to emphasize the inherent inaccuracy and uncertainty. The points are the best estimates for computer installations.



(b) Qualitative trends

BEST COPY AVAILABLE

With the equipment presently to hand, hard copy terminals and alphanumeric CRT terminals are feasable. There are also a number of systems available for integrating these CAI terminals into TV consoles and making the terminals available to remote stations via telephone, and so on.

Although the production cost of CAI programs was running about $3000 per instruction hour in 1970, it should be noted that the average CAI program runs twenty to 30 minutes. Also, a very large number of prepared and tested programs are available at considerably less cost per instruction hour. This suggests the alternative of purchasing initial programs while the faculty gradually learns the art of program production.

Although the initiation of a CAI program is very costly, there is a reliable way to make CAI pay. It is by choosing a market where a decrease in training time or an increase in student-teacher ratios can be translated into lower over-all costs to the system. This situation obtains when CAI is used for the education and training of professionals, children with learning disabilities and others whose instructional needs cannot be well met by the conventional classroom approach. The inherent ability of CAI to cater to special learning needs is believed to be of great significance. Since this district has a quite large potential student population possessing many of these characteristics (the need for remedial training, vocational and technical training, and geographically dispersed student populations), the desirability of developing CAI within the district should be given serious consideration. This study should consider the feasability of taking an entire campus to CAI with terminals located at other facilities; development on a smaller scale than this would probably inflate the cost-per-student of operation and would, therefore, be a relatively inefficient mode of operation.

Cooperative Education

The district colleges have cooperative education programs in operation. Taking these already functioning programs as guides and a basis for district wide planning, it should not be difficult to produce a rapid expansion of cooperative education at one or more facilities.

The virtues of cooperative education have already been enumerated; the need for a broadly based involvement with the community, on the part of the Peralta Colleges, is quite clear. Since a comprehensive cooperative education program in this district will of necessity emphasize vocational and trade/technical training rather heavily, the parallel development of CAI in this content area would vastly extend the technical training capacity of the district. The integrated and coordinated development of these two delivery systems should be seriously considered.

Dispersed Population Delivery Systems.

In view of the diverse populations to be found in the Peralta district and the widely scattered student population of the Feather River campus, some development of television, telephone and newspaper delivery systems should be examined. Several instructional systems integrating ITV and CAI have been produced with good results. The remaining TV capacity not preempted by CAI can be used very effectively with closed circuit and cable systems. The rapidly developing video cassette field is also promising as an element in many remotely located instruction terminals. A number of instructional uses of the telephone seem well suited to district needs--especially in the Feather River area. The use of newspapers as a delivery system has wide potential in all areas of the district, but again, especially well suited to many of the needs of Plumas County.

The Multi-Unit College Plan.

Since the district already has four operating facilities and is planning a fifth, the advantages and disadvantages of diversifying them in terms of non-traditional emphasis and function should be considered. The district has a relatively "aged" faculty; this means two things in terms of long range planning for innovation and change:

1) It may be easier to re-sort the faculty according to how congenial they find themselves with regard to these innovative changes than it is to persuade them to adopt these changes with any useful degree of commitment.

2) A relatively high retirement rate may be expected over the next ten years, and it may be easier to staff a facility with well prepared and committed people if there are a number of choices open to them

If one campus should be predominately CAI, another cooperative, another UWW, and so on, both students and prospective staff could more clearly see and exploit the alternatives open to them.

In view of our relatively high percentage of minority students, the further development of small, community housed learning centers modeled after the "street academies" of innercity districts like Malcom X College, could produce both new student involvement and a continuing recruitment of new students into the programs of the permanent facilities.

It would be interesting to see if some form of dispersed, small neighborhood learning centers could be devised for the Feather River community such that a substantial percentage of older community members could be induced to enroll in some form of continuing education. The high winter unemployment in this region provides a ready-made student population if we can provide educational programs that are interesting and available.

PART III: A RATIONALE FOR ASSIGNING PRIORITIES FOR THE DEVELOPMENT OF NON-TRADITIONAL DELIVERY SYSTEMS WITHIN THE DISTRICT.

The following recommendations are proposed for the planning committee's consideration:

1) Professional consultants should be engaged to assess the district's capacity to develope a CAI program out of its present inventory of hardware. Their report should also outline in detail the costs and returns of the various alternatives for development open to the district.

2) The development of and investment in all "learning center" hardware and facilities should be suspended pending some choice concerning whether to develop CAI, and if so, how this is to be done. A learning center, if it exists at all as a distinct entity apart from the CAI facility, should not duplicate services or equipment.

3) The district should provide for the immediate development of cooperative education on a much larger scale than presently conducted. Since cooperative programs are known to generate and to sustain ADA increases, such a move can provide the financial support to enable other innovative moves.

4) The district should without delay enable and encourage the Peralta faculty development of curriculum packaging programs and experiments. Since these innovations promise also to enlarge and hold student enrollment and are relatively independent of costly hardware choices to be

made, there is no reason to delay this kind move toward non-traditional education. The district must provide financial support for these developments in one of two forms:

a) Released time in substantial amounts to permit the development of new programs.

b) Contract with Peralta faculty to develope these programs in addition to their normal work load.

The latter choice might be preferable on two counts; released time entails crippling ADA losses and relatively low accountability for the quality of what is produced.

5) Begin a feasability study of the extent to which the existing faculty can be rearranged and reassigned so as to maximize the effectiveness of some form of multi-unit plan, should this be selected for development.

6) Obtain through district or outside professional sources the information on which decisions about ITV, Telephone and dial-access instruction, newspaper and other media instruction could be developed.

7) Purchase back issues to about 1970 of certain useful journals such as Educational Technology, AV Instruction, and so on, and systematically comb these sources for ideas, suggestions and other sources of information.

It is our conviction that intelligent choices among these delivery systems must be based in part on some kind of multi-dimensional ranking among them. As a suggestion for how this might be done, we display below eight of the more important delivery system categories as ordered on three dimensions of critical importance for decision making: Cost, Versatility and Perturbation

The cost factor is obvious. By versatility factor we mean a composite measure of the degree to which the given system satisfies the greatest number of needs and demands of both district and student populations for increased traditional and non-traditional delivery of instruction. By "perturbation" we mean the total disruption of the traditional and existing system--the internal stresses and strains of reorganization--which the choice of such a category, if extensively developed, would entail.

The rankings displayed below are no more than subjective impressions gathered from the literature on which this report is based, and are intended only to illustrate the idea of such a ranking scheme. The rankings are from greatest (1) to least (3) on the dimensions as defined above:

	COST FACTOR	VERSALITITY FACTOR	PERTURBATION FACTOR
1)	CAI	CAI	CAI
2)	LEARNING CENTERS	CURRICULUM PACKAGING	CURRICULUM PACKAGING
3)	ITV	LEARNING CENTERS	LEARNING CENTERS
4)	CURRICULUM PACKAGING	ITV	ITV
5)	COOPERATIVE EDUCATION	TELEPHONE	UWW
6)	UWW	UWW	COOPERATIVE EDUCATION
7)	TELEPHONE	COOPERATIVE EDUCATION	TELEPHONE
8)	NEWSPAPER	NEWSPAPER	NEWSPAPER

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EDUCATIONAL SERVICES

ALTERNATIVES FOR THE FUTURE

APPENDIX: ESMPP REPORT

In view of the difficulties the Project encountered in obtaining information about basic parameters of the District operation, and in view of the findings of the Research Team on Alternative Delivery Systems, the Chairwoman of ESMPP sought the help of Wilson Price, Merritt College Data Processing instructor, who has been instrumental in the development of both the Peralta instructional program in Data Processing and in the development of the present system for management information. Mr. Price was asked to address his paper to the nature of the decisions which confront us as the District moves to improved operational efficiency, as an institution, and toward important educational policy considerations. His willingness to assist the ESMPP in this fashion is warmly appreciated and greatly valued.

Suzanne Adams

Suzanne Adams, Ph. D.
Chairwoman, ESMPP

Computer Use at Peralta: an Assessment

Wilson Price

Merritt College

During the school year 1967-68, the District Data Processing Committee performed an evaluation of the District data processing needs projected into theyear 1971. Acting on the assessment of the Committee, Dr. Clement Long presented a recommendation to the Board of Trustees for the acquisition of a modern third generation IBM System/360 computer to replace our then-aging second generation machine. During August 1969, the District accepted delivery of this computer. Since that time, we have seen an evolutionary upgrading of various components of the system (including a switch to the newer System/370), an expansion of the data processing staff, and a significant increase in the number of applications being performed by the machine. Although each step along the way has been carefully planned and evaluated, the existence of a long-term plan (e.g., 3-5 years) for our administrative and educational data processing activities has been conspicuous by its absence. Largely as a result of this, our accomplishments are interspersed with many non-accomplishments ("should-be-doings"). Generally speaking, this condition is the rule rather than the exception in the college environment nationwide; the generalization does not, however, constitute compelling justification.

The purpose of this brief paper is to bring attention to this deficiency and the concomitant inefficient utilization of our resources. The assessment herein is divided into four

portions: (1) improvement of our overall information system to utilize most effectively our current computing hardware; (2) improvement of our overall information system, which will require additional hardware and the hardware cost implications; (3) the use of the computer in the classroom, primarily in computer-assisted instruction (CAI); (4) a brief comparison of the Peralta Colleges activities to those of other districts in computer use.

Enhancing Present Services: Existing Equipment

The current systems planning and programming efforts are being directed toward consolidating our several current systems into two major information systems:

1. Financial accounting
2. Student accounting

Some of the components of the financial accounting system are:

1. Payroll
2. Budget status
3. Purchasing
4. Accounts payable
5. Stores inventory
6. Facilities inventory

Similarly, the student accounting system includes

1. Student registration
2. Attendance accounting
3. Grade reporting
4. Transcript history
5. Course master

Of these systems and subsystems, only the student accounting system approaches adequacy, with the exception of the course master subsystem which is archaic. Under financial accounting, computerized versions of a facilities inventory and accounts payable are non-existent. The remainder of the components, which are partially manual and partially automated, are completely inadequate to meet present-day needs.

Let us consider, for instance, our payroll system. At first thought, this simple system should consist of little more than issuing pay warrants, balancing ledgers, and so on. Not so. Generally speaking, many institutions and businesses see their payroll system as one of the most vital systems in use. For the District, the payroll system should provide a complete personnel inventory, with vital information on each faculty and staff member. It is inconceivable, for instance, that a library would function without a comprehensive inventory of its basic commodity -- books. But as a district we function with only the most meagre of inventory information of our basic commodity -- people. As a result, many statistics required by State and Federal agencies must be compiled manually, often repeatedly in slightly varied forms. Moreover, information essential to studies for best directing and utilizing educational resources is currently available only through considerable effort and expense. Such information and statistics would, to a large extent, be a byproduct of a well-designed payroll system.

Now if a new payroll system is so important, why are we not in the process of achieving that goal? The answer relates to the capacity of our data processing staff; maintainence of current systems monopolizes the primary efforts of the department. New vitally needed systems can be realized through any one of three fundamental approaches:

1. Increase the size of our programming staff.
2. Supplement the programming staff with outside systems analysts and/or programmers on a straight job-contract basis.
3. Employ outside programming firms to design and implement specific systems and/or subsystems.

The most successful of our systems, student accounting, was designed on a contract basis (@ $22,000) with IBM.

Whatever the alternative, we must move positively and with longterm planning. We cannot afford to function inefficiently; the magnitude of our information needs is such that the long range effect of continued inefficient operation will be far more costly than the expense of bringing our systems up-to-date.

The Blue Sky

Almost everyone speaks glibly of management information systems and of real-time* devices. With these, the manager

*Technically, a real-time system is one in which the processing of data occurs during the actual time that the related physical activity is taking place in order that the results of the processing can be used in guiding physical activity. A good example is an airline reservation system in which the ticket agent can dial directly into the computer to obtain instant confirmation of seat availability and make the reservations.

or administrator need only punch a few keys on a terminal keyboard in his/her office and, via telephone lines, the computer pours forth comprehensive information on whatever problem is at hand. Perhaps those of us in the field of data processing are guilty of being overly enthusiastic about such sophisticated systems. But make no mistake: comprehensive real time systems, as many of us speak of them, are exceedingly expensive, albeit very powerful.

In order to best manage our resources, it appears that some level of direct inquiry to the computer through terminals is essential. The District resources which we direct in this area will require a careful and extensive analysis of the return on the investment and our ability to use the capability which the hardware will provide.

Instructional Uses of the Computer

It is a paradox! High school students in Oakland can program their high school science and math problems (or whatever catches their fancy) by terminal from their high schools or the Chabot Science Center. Yet when they graduate from high school and enroll at one of the Peralta Colleges, they find no CAI and no terminals. But wait; that should be addended: some of the Oakland graduates at Merritt still have access to the terminal at Chabot through former high school "connections." Clearly something is wrong here. The Peralta Colleges should be leading the way in this area; we are in the position of not even following!

The responsibility for lack of progress toward more extensive use of the computer in instruction rests directly with the faculty and administration, especially with those of us in the data processing field who have a working knowledge of the computer and its capabilities. For too long we have directed most of our efforts to our vocational data processing programs in attempting to provide our students with the best possible foundation for a career in the field of data processing. As a District, we have done this partially by providing good, modern computing equipment and then bringing the students to the computer.

Now we must carefully assess the extent to which we can most efficiently enhance our educational system through use of the computer in all areas of instruction. And this involves bringing the computer to the student through remote terminals. Perhaps the most dramatic example of the computer's capability has been in the teaching of remedial subjects, such as mathematics and language skills, an endeavor which occupies a significant portion of our faculty resources. During their own lifetimes, students requiring remedial-level assistance have developed an amazing immunity to classical teaching methods. Various programmed materials providing for self-paced instruction have shown varying degrees of success. Remedial drill and practice CAI systems, when properly utilized and incorporated within an existing educational system, have produced good, and in many cases spectacular, results. There appears to be a

"fascination" factor of conversing with an almost-human computer which holds the attention of the student as no other teaching device will. Studies have shown, fortunately, that this fascination factor does not significantly diminish with continued exposure to a CAI system.

On the other hand, CAI is not a panacea for all of our educational ailments. In some instances, it has been used to the extent of becoming an expensive educational frill with a very high cost-benefit ratio. The extent to which it is to be employed in the Peralta District must be determined by examining all of the District needs and placing CAI in its proper framework within the available resources of the District. In making this evaluation, we must recognize that many segments of the population which we must serve will be better served by CAI than by classical methods. Furthermore, the costs associated with standard classroom methods have increased significantly during the past five years. During this same time period, the cost of CAI has decreased significantly accompanied by a definite improvement of available material quality. The time for the District to move in the CAI direction was yesterday; the time to move quickly is today.

Peralta Colleges and Other Districts

Drawing comparisons with others can be both valuable and dangerous: it is valuable if we use the experience of others to help guide us to the most cost-effective utilization of our resources; it is dangerous if we use the "simple way out" of

either retarding or accelerating our growth in order to "stay in line" with others.

In comparing ourselves to community college districts in the area, it is important to bear in mind that many characteristics of our District represent the extremes among these districts; for instance, consider the following:

1. We have the largest total student enrollment.
2. We have the largest annual budget.
3. We comprise the largest number of colleges to be served by data processing.
4. We are the only district operating on both the quarter and semester systems.

Through a local professional organization, Mr. Scott Baldwin, Peralta data processing supervisor, has assisted in compiling statistics concerning computer usage in other districts in Northern California. On the surface, his figures tend to indicate that the Peralta District is about average in such areas as percentage of total budget expended for data processing services (1-2% is the nominal range), size of data processing staff, and the kind/amount of hardware possessed. Based on his informal discussions with representatives of other districts, our utilization of the computer for administrative processing appears to be above average -- which does not say much for the area "average" ! In this area we are also unique in the extent to which our central computer is shared for instructional use at three campuses

through high speed remote units. For instance, the Contra Costa District utilizes a computer system similar to ours for their administrative purposes, but other smaller computers for instruction. In spite of the many apparent shortcomings of our data processing systems, our data processing department is to be commended on its achievements in serving the District on the limited resources available to them.

Whenever comparisons are made with what other colleges are doing, the discussion invariably involves two outstanding districts: Orange Coast in Southern California and Miami-Dade in Florida. Without a doubt, they have unusual capabilities in both administrative processing and the many aspects of educational services involving the computer. They also dedicate over 3% of their annual budgets to data processing; at Peralta this figure is slightly above 1.5%. These colleges have paid, and are paying, the price. Whether or not we should set them as our standard for which to strive is certainly debatable and, in fact, probably irrelevant. However, many of their achievements are well worth noting. It is time for us to chart our course for the most efficient use of the computer utility in all aspects of our educational activities.

UNIVERSITY OF CALIF.
LOS ANGELES

JUN 20 1975

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION